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PLANNING, HOUSING & PUBLIC UTILITIES

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It Can Be Solved . . . . *Clarence J. McCormick*

also

Is Bigness a Crime? . . . . . *Walter Adams*

Life Cycle of Home Owners' Loan Corporation . . . . . *Rosalind Tough*

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Wilderness Areas: An Extra-Market problem in Resource Allocation . . . . *L. Gregory Hines*

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Is Bigness a Crime?†

By WALTER ADAMS*

IN recent years, the Department of Justice has attempted to revitalize the long-dormant Section 2 of the Sherman Act by placing an increased emphasis on dissolution, divorcement, and divestiture cases. The theory underlying this program is that the problem of concentrated economic power in certain industries can, within the framework of the antitrust laws, be dealt with in only one way—through dissolution, i.e., trust busting in the literal sense.

This approach to the monopoly problem has—quite inevitably, perhaps—elicited the charge by some business men that the Government is attacking bigness *per se*; that the Government is trying to make "a sin of efficiency, a crime of success, a felony of size, and a corpse of private enterprise."

From a public policy point of view, this controversy raises three fundamental questions. *First*, does the law, as presently interpreted by the courts, in fact make bigness a crime? *Second*, if so, is there any economic justification for such a law? *Third*, if an attack on bigness *per se* is unwise, along what lines should our present antitrust statutes be revised? These are the questions to be discussed in this paper.

Bigness and the Law

Turning first to the legal aspects of the problem, we find that Section 2 of the Sherman Act categorically declares: "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished . . ."[1] While this provision seems clear in its prohibition of monopoly and *attempts to create a monopoly*, it was not long before the courts formulated a new standard which for many years made Section 2 practically unenforceable. The new standard was the "rule of reason," an-

† The material on which this article is based was originally presented at the annual meetings of the Midwest Economic Association, Milwaukee, April 21, 1951.

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[1] 26 Stat. 209; 15 U.S.C. 2; Public No. 190, 51st Cong. (1890).

nounced in the Standard Oil and American Tobacco cases of 1911, which held that not *every* combination was to be considered unlawful but only *unreasonable* combinations—i.e., combinations motivated by unlawful purposes or combinations employing predatory practices.[2]

This "rule of reason" was applied with devastating effectiveness in the United States Steel case of 1920. Here the Court ruled that even though the Corporation had attempted to monopolize the steel industry, the Sherman Act was not violated since the attempt failed.[3] Moreover, since the Corporation had not used the predatory practices previously employed by the oil and tobacco trusts—since it had always abided by the golden rule of live-and-let-live—it was a "reasonable" combination within the meaning of the Sherman Act. Said the Court: ". . . the law does not make mere size an offense or the existence of unexerted power an offense."[4] While U. S. Steel was big, it had never deviated from a policy of "friendly" competition. Hence, in the eyes of the Court, it was a "good" trust.[5]

This ruling was firmly nailed down by the International Harvester case[6] of 1927, and Section 2 of the Sherman Act became for all intents and purposes a dead letter. It was not until 1945, when Judge Learned Hand's celebrated opinion was handed down in the Aluminum case, that renewed force and vigor were injected into the anti-monopoly provisions of the Act. "In the Aluminum case Judge Hand finally interred and reversed the old dictum that size is not an offense under the Sherman Act. Size, he concluded, was not only evidence of violation, or a potential offense, as in Justice Cardozo's conciliatory formula of the Swift case: it was the essence of the offense. Size, meaning market control, was what competition and monopoly were about. All other aspects of the case were subordinated to the central and decisive fact that the Aluminum Company of America, many years after its patents had expired, made and then fabricated or sold over 90 percent of the virgin aluminum used in the United States. Its arrangements with foreign companies for dividing the world markets were further evidence of monopolizing. That it had engaged in deplorable tactics to prevent other companies from entering

[2] See *United States* v. *Standard Oil Company of New Jersey*, 221 U.S. 1 (1911) and *United States* v. *American Tobacco Company*, 221 U.S. 106 (1911). While both companies were broken up—in spite of the "rule of reason"—neither case can be cited as a good example of what a dissolution policy can accomplish. See E. Jones, *The Trust Problem in the United States*, pp. 123-63 and pp. 452-74; H. R. Seager and C. A. Gulick, *Trust and Corporation Problems*, pp. 149-95; W. H. S. Stevens, *Industrial Combinations and Trusts*, pp. 440-61 and pp. 472-516; R. Cox, *Competition in the American Tobacco Industry;* and G. E. Hale, "Trust Dissolution: 'Atomizing Business Units of Monopolistic Size'," *Columbia Law Review*, April 1940, pp. 617-20 and pp. 628-31.

[3] It is interesting to note that this application of the "rule of reason" stands in contrast to the standard used in *United States* v. *United Shoe Machinery Company*, 247 U.S. 32, (1918). In the latter case the Court held that a combination which controlled 95 percent of the output in its industry was lawful, since the combination was formed for the purpose of attaining greater efficiency rather than with the intent to monopolize. Thus, in the Shoe Machinery case the Court emphasized the "intent" standard, whereas in the Steel case, the question of intent was completely subordinated to the issue of whether the intent to monopolize had in fact been realized.

[4] *United States* v. *United States Steel Corporation*, 251 U. S. 417 (1920).

[5] In criticizing the "rule of reason" as it was applied in the United States Steel and other cases, Professor Milton Handler points out: "The proponents of any combination always profess the most exalted motives. Since their hearts and minds cannot be searched by the Courts, the Government, in the absence of admissions, must rely on the objective facts for contradiction. To infer intent from extrinsic circumstances is to add another link to the chain of proof and to open the door to metaphysical distinctions, evasions, and further uncertainty. The antitrust laws should be concerned not with a state of mind but with economic realities. It is the existence of monopoly, and not the reasons which prompted those responsible for its creation, which calls for corrective action . . . Monopoly is reprehensible in a political democracy whether or not accompanied by evil purpose or improper conduct. There is no reason why monopoly and predatory behavior should not be both outlawed, whether they occur separately or in combination . . . and it is inferable from the authorities as a whole that both are equally inhibited by the statute. The distinction between good and bad trusts belongs to that outmoded era when the antitrust laws were regarded as a moral pronouncement rather than a charter of economic freedom." "A study of the Construction and Enforcement of the Antitrust Laws," *T.N.E.C. Monograph No. 38.*, pp. 78-9.

[6] *United States* v. *International Harvester Company*, 274 U.S. 693 (1927).

the field helped compound the offense. But the case was proved, in Judge Hand's view, by showing the company's market power. It made over 90 percent of virgin aluminum and therefore had monopoly power."[7]

The reasoning of the opinion is unmistakable. Our antitrust laws, according to Judge Hand, were not designed to condone *good* trusts or condemn *bad* trusts, but to forbid *all* trusts. The antitrust laws had as their basic philosophy and principal purpose "to perpetuate and preserve, for its own sake and in spite of possible cost, an organization of industry in small units which can effectively compete with each other."[8] Hence the existence of predominant market control was considered sufficient to prove a violation of the Sherman Act. No specific evidence of "intent" was needed, nor was the Government required to show the use of predatory or illegal practices. Contrary to the U. S. Steel and International Harvester dicta, mere size and the existence of unexerted power could—under specified conditions—be ruled a violation of the Sherman Act.

The doctrine of the Aluminum case was given the approval of the Supreme Court in the American Tobacco decision of 1946. There the Court found it to be unnecessary that unequivocal expressions of the intent to monopolize be shown or a premeditated and calculated plan to obtain a monopoly be demonstrated. Said the Court: "It is not the form of the combination or the particular means used but the result to be obtained that the statute condemns . . . . The . . . . material consideration in determining whether a monopoly exists is not that prices are raised and that competition actually is excluded but that power exists to raise prices or to exclude competition when it is desired to do so."[9] With this decision the *legal* issue of bigness was settled. The highest court of the land had accepted the proposition that grave injury to competition can result from size and power, standing by themselves, and that monopoly means predominant size within an industry regardless of the methods by which such size was achieved.[10]

The Economics of Bigness

At this juncture, the battle over bigness was shifted in part from the legal to the economic and political arena. In the court of public opinion, some businessmen began to argue that little can or should be done about size; that we should not—as a matter of sound public policy—oppose size as such but content ourselves with controlling its abuses by enforcing the antitrust laws against monopolistic *practices*. These men contend that some concerns are big merely because they are efficient; that such concerns are big because consumers want them to be big; in short, that bigness is the result of a "passive" adjustment to the technological and economic dictates of the twentieth

[7] Eugene V. Rostow, A National Policy for the Oil Industry (New Haven: Yale University Press, 1948), pp. 126-27.

[8] *United States* v. *Aluminum Company of America*, 148 F. (2d) 416 (C.C.A. 2d, 1945).

[9] *American Tobacco Company et al.* v. *United States*, 328 U.S. 781, 811 (1946).

[10] In this connection, it should be noted that—in spite of the "liberal" interpretation of Section 2 recently announced in the Aluminum and American Tobacco cases—the government has made little progress along the dissolution, divorcement, and divestiture front. In sharp contrast to the many *legal* triumphs, the government has generally failed to obtain meaningful economic relief. Remedial action approved by the courts has, in most instances, failed to lessen concentration and restore effective competition. As an examination of the record indicates, firms found guilty of possessing *and* exercising monopoly power have—with the notable exception of the motion picture companies (*United States* v. *Paramount Pictures, Inc.*, 334 U.S. 131; 1948)—escaped dissolution, divorcement, and divestiture. See W. Adams, "The Aluminum Case: Legal Victory—Economic Defeat," *American Economic Review*, December 1951. (forthcoming)

century market place.[11] This view—sometimes referred to as the "abuse" theory of size—is economically unrealistic and practically unenforceable for the following reasons.

In the first place, experience would seem to indicate that a mere attack on monopolistic *practices* cannot, in most instances, succeed in curbing monopoly and fostering competition—especially in industries which evidence basic structural deviations from the competitive norm. While numerous illustrations could be cited in support of this claim, let us examine only one—the case involving the United Shoe Machinery Company. In 1922 the courts perpetually enjoined the company's use of the tying contract,[12] and it was thought then that the primary means for lessening competition and creating monopoly in the industry had thus been eliminated. This was not the case, however, for the company merely substituted other provisions in its leasing contracts to achieve the same unlawful ends.[13] Moreover, it used its overwhelming financial power to crush independent competitors whenever and wherever they appeared. In addition, the company infringed on the patents of numerous small competitors and then distributed machines covered by those patents at disastrously low prices so as to drive their rightful owners out of the industry. The net result was that 25 years after the 1922 decree, the Department of Justice was impelled to file a dissolution suit against United States Shoe Machinery Corporation.[14] This, it was decided, was the only way of restoring competition in the shoe machinery industry.

The United Shoe Machinery and similar cases would tend to show that drastic surgery, painful though it may be, is often the only means of restoring competition. There are few industries in which monopolistic power can be neutralized by eradicating a single "critical" restraint; for, if all the possible highways of restraint are blocked, the monopolist will simply travel "cross-country." Moreover, a decree which attempts to block every single highway of restraint—assuming the Antitrust Division had the omniscience to fashion such a decree—would require constant and careful surveillance; the kind of policing job the Antitrust Division is not prepared, and should not be forced, to undertake. The competitive system is designed to minimize, to the greatest extent feasible, the administrative regulation and supervision of private industry by the government. Hence, the ideal type of decree is one which is basically self-enforcing. A dissolution, divorcement, or divestiture judg-

[11] The late Charles A. Beard lent support to this point of view when he wrote: "As to myself, my conviction is clear and positive. After reading tons of trust-busting literature, briefs of lawyers in trust cases and judicial decisions and thousands of pages of testimony and recommendations, after listening to any number of anti-trust speeches by honest men and demagogues, after suffering from the frightful din and racket of more than fifty years, after reading statistical studies, such as John Moody's and Berle's and Means' I have come to the conclusion that ours is now and in the nature of things destined to be a great continental, technological society and the trust busters, however honest and honorable, are just whistling in the wind." ("The Antitrust Racket," *The New Republic*, September 1938, p. 184.)

[12] *United States* v. *United Shoe Machinery Corp.*, 258 U.S. 451 (1922).

[13] The following provisions replaced the tying clauses which the courts had outlawed in 1922:

"That the lessee shall use the machine for not less than a term of five or ten years, ... that the lease may be cancelled during said term only by United; and that, thereafter, the lessee shall continue to use the machine indefinitely subject to the right of United or the lessee to terminate the lease upon 60 days' notice.

"That the lessee of each unit charge machine shall use the machine each month upon a stipulated minimum number of pairs of shoes, and shall pay to United a stipulated sum of money at the conclusion of each month during which the machine is not used upon said minimum number of pairs of shoes.

"That the lessee of each unit charge machine shall use the machine to its full capacity upon all shoes made by the lessee upon which the machine is capable of being used.

"That upon termination of the lease the lessee shall surrender the machine to United in good order and condition, shall reimburse United for the cost of all broken or missing parts, and *shall pay to United a stipulated sum of money varying according to the machine leased from about 20% to 85% of the value of the machine.*" (Emphasis supplied)

[14] *United States* v. *United Shoe Machinery Corporation*, Civil 7198; filed December 15, 1947.

ment has the great virtue of meeting that requirement, for it creates the type of structural arrangement in an industry which obviates the necessity for direct interference and control.

The second weakness of the "abuse" theory of size is that it is hopelessly unrealistic from an economic point of view; for, once a firm has attained a dominant position in the market place, it no longer has to engage in predatory practices to achieve its monopolistic ends. Its mere existence will be sufficient warning to smaller competitors that non-cooperation is tantamount to suicide. As Justice Brandeis so brilliantly expressed it: "Restraint of trade may be exerted upon rivals; upon buyers or upon sellers; upon employers or upon employed. Restraint may be exerted through force or fraud or agreement. It may be exerted through moral or through legal obligations; through fear or through hope. It may exist, although it is not manifested in any overt act, and even though there is no intent to restrain. Words of advice, seemingly innocent and perhaps benevolent, may restrain, when uttered under circumstances that make advice equivalent to command. For the essence of restraint is power; and power may arise merely out of position. Whenever a dominant position has been attained, restraint necessarily arises."[15]

Or, as Thomas Nixon Carver put it: "The larger the corporation, the greater is its power, either for good or for evil, and that makes it especially important that its power be under control. If I may use a homely illustration, I will take the common house cat, whose diminutive size makes her a safe inmate of our household in spite of her playful disposition and her liking for animal food. If, without the slightest change of character or disposition, she were suddenly enlarged to the dimensions of a tiger, we should at least want her to be muzzled and to have her claws trimmed, whereas if she were to assume the dimensions of a mastadon, I doubt if any of us would want to live in the same house with her. And it would be useless to argue that her nature had not changed, that she was just as amiable as ever, and no more carnivorous than she always had been. Nor would it convince us to be told that her productivity had increased and that she could now catch more mice in a minute than she formerly could in a week. We should be afraid lest, in a playful mood, she might set a paw upon us, to the detriment of our epidermis, or that in her large-scale mouse-catching she might not always discriminate between us and the mice."[16]

Thirdly, it would appear impossible to attain the objectives of the Sherman Act if only predatory behavior is prohibited while monopoly as such goes unchallenged. The reason is obvious. Section 1 of the Act forbids conspiracy in restraint of trade; Section 2 enjoins monopoly and attempts to monopolize. If Section 2 were repealed or allowed to die for lack of enforcement, corporations could achieve by combinations, mergers, holding companies, etc., a more complete control over price and output than they could ever hope to realize under the most elaborate forms of conspiracy. Hence, if we believe that group control over prices, effectuated through concerted action is economically undesirable, logic and realism require us to oppose similar control achieved through the combination of independent firms into corporate

[15] Dissenting Opinion in *United States* v. *American Column & Lumber Co.*, 257 U.S. 337 (1921). Mr. Justice Murphy emphasized the same point when he wrote: "Domination may spring as readily from subtle or unexercised power as from arbitrary imposition or command. To conclude otherwise is to ignore the realities of intercorporate relationships." *North American Company* v. *Securities Exchange Commission*, 327 U.S. 686 (1945).

[16] *Essays in Social Justice*, p. 332.

aggregations of Brobdingnagian proportions.[17]

Finally, we must bear in mind that the "abuse" theory of size is based on the rather dubious assumption that bigness is the guarantor of efficiency in a mass production economy. While there has been considerable discussion on the relative efficiency of small, medium-sized and large firms,[18] the most we can say in support of bigness *per se* is that the findings are inconclusive. As one conservative student of the subject points out: "No published cost studies have made the adjustments necessary to eliminate variables other than size, and the results are open to the same objection whether they show one size or another to be more profitable. As a generalization from the inadequate data available, it may be said that there is little evidence to support the conclusion that the largest enterprises are relatively inefficient. Nor, on the other hand, has it been proved that they have a superiority on a cost basis."[19] Thus, if the giant size of firms in some of our mass production industries is to be justified, it will have to be done on grounds other than the results of the efficiency studies available to date.

From our discussion so far, then, we may conclude that in the eyes of the law bigness is a crime—bigness being defined as the power to raise prices and the power to exclude competitors whenever it is desired to do so. We may also say that it is unrealistic, from an economic point of view, to attempt enforcement of the antitrust laws only against monopolistic practices while leaving untouched the giant combinations which can—with or without the resort to unlawful practices—achieve their monopolistic ends. With these considerations in mind, let us now turn to a discussion of public policy.

Bigness and Public Policy

While public policy must necessarily take into account social, political, ethical and psychological as well as economic objectives, the economist can nevertheless inquire: "Assuming that efficiency is the goal of economic organization, what kind of antitrust policy—if any—is likely to be most effective in promoting this goal? How can competition be preserved and encouraged without simultaneously penalizing efficiency? How can an attack on bigness be reconciled with the maintenance of an efficient organization for production and distribution? Finally, granting that the optimum size of firms is large in many industries, *how* big must a concern be to be efficient?"

I have attempted to answer the above questions by drafting a proposal for a new antitrust law which was submitted to the House Judiciary Committee December 1, 1949.[20] The proposed law, which would deal with non-financial corporations only, has a double purpose: to preserve, wherever feasible, a competitive structure of industry while at the same time providing

[17] In this connection it is noteworthy that monopoly and predatory behavior usually go hand in hand. As a matter of fact, no industrial giant has ever been found guilty of violating Section 2 of the Sherman Act without a showing by the Government that the firm possessed *and* exercised monopoly power. Moreover, as Professor Edward H. Levi observes: "The truth is, of course, that in most monopoly cases, if the court has a mind to do so, it can find abuses." "The Antitrust Laws and Monopoly," *University of Chicago Law Review*, February 1947, p. 158.

[18] See "Relative Efficiency of Large, Medium-Sized, and Small Business," *T.N.E.C. Monograph No. 13*, 1941; John M. Blair, "The Relation between Size and Efficiency of Business," *Review of Economic Statistics*, August 1942; S. R. Dennison, "The Problem of Bigness," *The Cambridge Journal*, November 1947; John M. Blair, "Does Large-Scale Enterprise Result in Lower Costs?" *American Economic Review*, May 1948 (Supplement); Federal Trade Commission, *The Divergence between Plant and Company Concentration, 1947*, 1950; William L. Crum, *Corporate Size and Earning Power*, 1939; National Association of Manufacturers, *Business Size and the Public Interest*, 1949; Richards C. Osborn, *Effects of Corporate Size on Efficiency and Profitability*, 1950; National Association of Manufacturers, *Comments on "The Divergence between Plant and Company Concentration, 1947*, 1951."

[19] Richards C. Osborn, "Efficiency and Profitability in Relation to Size," *Harvard Business Review*, March 1951, p. 92.

[20] See Monopoly Subcommittee, House Judiciary Committee, *Hearings*, Part 2-B, 81st Congress, 1st Session, 1949, pp. 1311-39, 1600-25.

safeguards against an interference with business efficiency. In cases where these basic goals come into conflict, the proposed law would forsake competition and choose efficiency as the objective of public policy. The basic purpose of the new law would be not to make bigness *per se* a crime, but rather to eliminate such bigness as is not based on efficiency in production and distribution.

Specifically the bill provides that corporations which control 10 percent or more of a commodity's supply (or corporations with assets totalling more than $25,000,000) must register with the Securities & Exchange Commission. These corporations must then file pertinent data so that the Commission can determine—in a case-by-case approach and in accordance with specific standards[21] set forth in the bill—whether the corporate structure of a given firm, its position in the industry, or its business policies and practices have a detrimental effect on the interests of investors, consumers, or the general public. If they do, the Commission can, after opportunity for hearing, order the dissolution of such a firm or "the divestiture thereby or divorcement therefrom of any property, assets, securities or other holdings which are not reasonably incidental, or economically necessary or appropriate to its efficient functioning . . . or which tend to hinder, obstruct, impede or render difficult the maintenance or achievement of effective competition in one or more lines of commerce."[22]

This simply means that, if the Commission were to discover that the du Pont control over General Motors and U. S. Rubber was not economically necessary or appropriate to the efficient functioning of a chemical firm, or that such control was motivated primarily by a desire for monopoly, the Commission might order du Pont to rid itself of the GM and U. S. Rubber holdings. Similarly, if the Commission were to find that General Motors was indeed an efficient producer of automobiles but that its manufacture of diesel locomotives, refrigerators, electric appliances, etc., merely represented an attempt to aggrandize the firm's size and economic power, the company might be forced to confine its operations to the automobile field. Finally, if the Commission were to find that a firm like U. S. Steel could operate as efficiently but less monopolistically at one-third its present size, an order to that effect could be issued.[23]

[21] *Ibid.*, pp. 1601-04. The purpose in listing and defining specific types of structural organization, which are to be forbidden under this law, is to lend clarity and precision to the general prohibitions of the Sherman Act. Thus coercive integration—of the horizontal, vertical, and conglomerate variety—is specified as an economically objectionable and, therefore, unlawful form of industrial organization. This does not mean that all integration *per se* is forbidden. Our bill would merely ban the kinds of integration which can be used—actually or potentially—for the coercion of competitors rather than for the achievement of competitively legitimate business objectives (as the enhancement of efficiency, for example).

[22] *Ibid.*, p. 1613. Critics of this proposal may argue that an extension of SEC's power into the industrial field is of debatable wisdom, feasibility, and public benefit. They may point out that the Commission's administrative procedure is cumbersome, time-consuming, and expensive; that the standards set forth in the proposed bill are not definite and precise enough to warrant what appears to be a delegation of legislative powers. Finally, these critics may contend that unless the standards set up in the law are more carefully spelled out, and unless the Commission and its staff take a less legalistic approach than at times has been employed in administering Section 11 of the Holding Company Act, business concerns might be unduly harassed by frequent investigations and information questionnaires. While these criticisms serve to underline some of the weaknesses in the proposed bill, they do not—we believe—vitiate the basic validity of the suggested approach.

[23] In 1938, the editors of *Fortune* suggested that, in some sectors of American industry, a process of deconcentration or "unmerging" might not only be advantageous for the public but also profitable for the enterprises concerned. Said the editors: ". . . . it is permissible to inquire whether business could conceivably profit by a transformation of itself. And the answer, of necessity prefunctory within the present limitations of space, would seem to be that some of it could. If the winding-up process of the last 70 years has been an extremely profitable process, there is no reason to suppose that an unwinding process could not be profitable too. Indeed, the greatest obstacle in visualizing the possibilities inherent in such a reversal of the economy would seem to lie chiefly in a habit of mind that has conditioned every businessman to think of mergers as inevitably more profitable than the sum of their constituent units." (Editorial, *Fortune*, March 1938)

Here then is the central provision of the proposed law: it permits an administrative authority, subject to judicial review, to order a giant firm to "unmerge," wherever the effect of such an order is likely to stimulate competition and/or increase efficiency. But the bill goes further. It leans over backward to afford companies protection against wanton and arbitrary atomization. This protection is provided in the form of escape clauses under which an industrial giant can avoid dissolution or divestment orders by the Commission, if it can demonstrate that its present size is necessary for the attainment of efficiency or that its business performance in the past has materially benefitted the general public. Contributions to the public interest can be established simply by showing that the company in question has participated in technological progress, passed on savings in cost to consumers, provided enough plant capacity to fill consumer needs and actually used such capacity fully, earned a normal rate of profit as compared to competitive industries, and has benefitted consumers by price reductions as well as by advertising competition.[24] When a company, judged by these standards, can show that the manner of its past performance has been in the public interest, it escapes dissolution or divestment—regardless of its monopolistic position in the economy.

Note that the burden of proof as far as business performance and efficiency are concerned is on the corporation. For once the existence of the corporation has been shown to be incompatible with the maintenance or establishment of competition, the corporation—in order to escape dissolution, divorcement and divestiture—must rebut the prima facie case set forth by the Commission. There are those who feel concern about this method of procedure, thinking that it is a departure from our traditional presumption of innocence until proven guilty, a presumption which applies in cases involving criminal procedure. There seems to be little cause for alarm on this score, however, since it is well-established procedure under civil law that the burden of proof shifts from party to party in accordance with the changing weight of the evidence. Thus the Commission puts into the record evidence which proves that the operation and policies of a firm are injurious to competition and promotive of monopoly. Having done this, it may rest its case and it is for the respondent to come forward with his proof of efficiency and business performance in the public interest as a rebuttal maneuver. The Commission is, therefore, under no obligation to prove the negative of the conditional (escape) clause. The clause is there for use of the respondent if he has the facts necessary to make proof. Were the entire burden of proof on the Commission, this would require an extension of the agency's investigatory powers to a degree which would be burdensome to both the respondent and the Commission.[25]

The main advantages of the proposed bill are threefold: *First*, it is not a general dissolution decree against all industrial giants. It is not a death sentence for big business merely on the grounds that it is big. Instead, the bill provides for a careful, selective, case-by-case approach to cope with such concentrated economic power as is conducive neither to a maintenance of efficiency nor to the

[24] For a discussion of these standards as measures of business performance in the public interest, see Edward S. Mason, "The Current Status of the Monopoly Problem in the United States," *Harvard Law Review*, June 1949.

[25] That this type of administrative procedure is not without precedent and has been followed without penalty to the respondent is shown by our experience with the "cost justification" clauses of the Robinson-Patman Act. See Albert E. Sawyer, "The Commission's Administration of Paragraph 2(a) of the Robinson-Patman Act: An Appraisal," *George Washington Law Review*, Vol. 8, pp. 502-3 (1940).

encouragement of competition. *Secondly*, the bill proposes to benefit not only consumers and the general public but corporate investors as well. It does so simply by requiring that no business be so big that its component parts could function more efficiently as separate units than as parts of the whole.[26] *Thirdly*, the bill implements dissolution proceedings by more sophisticated techniques than the hammer-and-tongs method available under the Sherman Act. Whereas the Sherman Act equips the Justice Department with a blunt axe, this bill provides the enforcement agency with a set of fine surgical instruments. By contrast with the Sherman Act, it sets up clearer and more concrete standards for judging unlawful behavior in the market place,[27] thus eliminating some of the confusion and uncertainty concerning the antitrust laws from which the business community now suffers. *Finally*, while the proposed bill is by no means a panacea for our monopoly problems, while it should not preclude attempts to aid the small businessman, to reform the patent laws, to cope with interlocking financial control, etc., it ought, nevertheless, to constitute the core around which an enlightened, rejuvenated, and modernized antitrust program is formulated.

[26] There is some evidence that dissolution proceedings under a similar law (the Public Utility Holding Company Act of 1935) did not precipitate the fatal loss of efficiency which had been widely predicted prior to the law's passage. While the statistics are by no means conclusive, it may even be argued that, in certain cases, efficiency after dissolution was *increased* and that this increase was reflected in the security values of those operating companies which were divorced from their parent organizations. As a spokesman for the Securities & Exchange Commission recently pointed out, "it has been the experience of the Commission that the liquidation of holding companies results in increasing the market value of the aggregate security interests affected. This appears also to be the concensus of financial opinion." (Subcommittee on the study of Monopoly Power, *op. cit.*, p. 1469). For further documentation, see *ibid.*, pp. 1460-69.

[27] See n. 21, *supra*.

Conclusion

In conclusion, two observations are in order: (1) If we are to retain the basic philosophy of the antitrust laws, if we are to make the preservation of free competitive enterprise the goal of social and economic policy, then, "*quite apart from what we decide to do about it, the problem of antitrust is the problem of size.* Expeditions into the tangled jungles of antitrust will bring results only if we keep the scent and follow the main trail—only if we realize that, whether we destroy it, capture it or just take pictures of it, the real bag is bigness, and that the rest are nothing but small game and battered decoys."[28] (2) If, however, we decide to add the standard of efficiency to the traditional criterion of competition as the objective of public policy, our antitrust laws will have to be revised so as to provide that bigness is a crime only when monopolistic concerns cannot justify their size on grounds of superior efficiency. If we undertake such revision of the antitrust laws, let us recognize that it implies a willingness to reverse our traditional opposition to concentrated power in any form—a willingness to incur a calculated risk in the sphere of social and political philosophy. On the other hand, let us also recognize that, if we do nothing, if we fail to enforce the antitrust laws in their present form and simultaneously refuse to amend and modify them as here proposed, in short, if "neither business nor Government makes any moves whatever in the direction of breaking down industry into smaller, more compact, more mobile, and better earning units; if bigness is allowed to remain as the standard concept of the economy; then the American businessman, and the American politico, and in

[28] Ben H. Lewis, "How Bad is Bigness?" *The Oberlin Alumni Magazine*, May 1950.

short all American citizens, must prepare themselves for a different order of things; an order in which the powers of Government are not limited; in which the right to risk-and-profit is not clear; and in which the making, the selling, and even the buying of the products of the biggest show in history are all mysteriously directed from above."[29]

[29] Editorial, *Fortune*, March 1938.

The New "Mississippi Problem"†

By ROBERT W. HARRISON*

I

WITH the passage of the Federal Flood Control Act of May 15, 1928, the Mississippi Alluvial Valley and the problem of protecting this valley from Mississippi River overflow began to fade from popular, nation-wide attention. New projects, some for the development of hydro-electric power and some for the irrigation of arid land, soon claimed the public interest formerly bestowed upon the task of designing and building levees strong enough to confine the floodwaters of the greatest river of North America. It is difficult today to recall how closely citizens everywhere followed the dramatic highwater fights of 1897, 1903, 1912, 1913, and 1927 in the Lower Mississippi Valley. After every major disaster Congress, sensitive to public opinion, enlarged the appropriations for levee building and other flood works. With the flood of 1927, described by Herbert Hoover as ". . . . the greatest disaster of peace times in our history," the "Mississippi Problem" became truly national. Millions of words were recorded in the public hearings following this great Mississippi flood. They led to one conclusion: The United States Government must assume responsibility for a comprehensive program of flood control in the Lower Mississippi Valley; the flood problem here must be solved. The U. S. Engineers were assigned the task.

For almost 30 years now, the fertile bottom lands of the Lower Mississippi have been free from Mississippi River overflow. The vast levee system which protects 35,000 square miles of floodplain from Mississippi River water is widely recognized as one of the great engineering achievements of modern times. Freedom from floods has meant much to citizens of the Mississippi Delta, as the alluvial lands are frequently called. It has meant an opportunity to build homes, and farms, and cities, and to go about the business of farming the fertile soils and of building needed industry free from the worry of periodic overflow. Every improvement in flood control has been followed rapidly by agricultural and industrial developments. It is no exaggeration to say that the history of land settlement and agricultural development in the Lower Mississippi Valley can be told in terms of success or failure of the levee line.

The freedom and opportunity brought by successful levee building has bred, in many places, an indifference to flood control affairs, formerly so vital a part of daily life in the Delta and the subject of frequent discussion throughout the country. Indifference to the problems of flood control and ignorance of the essentials of an effective flood control system are exceedingly dangerous conditions for those who live in the path of the Mississippi. The real supporters of the Mississippi Valley flood control projects in Congress—Ransdell, Humphreys, Overton, and Whittington—are gone, through retirement or death, and new leadership in this field must be developed, for effective flood control in the Mississippi Valley requires a program as dynamic as the great River it seeks to direct. The time is clearly ripe for a

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reappraisal of the flood control project in the Mississippi Valley, for an assessment of its accomplishments and a public statement of new problems confronted and the means required to meet them.

This paper seeks to outline briefly the essential features of the present program and to show how the levee system is threatened by the caving of the River bends, making it essential to increase greatly the revetment (bank stabilization) program. The need for effective and economical methods for control of river meander in the Lower Mississippi Valley is so urgent that the problem of stabilizing the caving banks of the Mississippi River is adequately described as the new "Mississippi Problem." While this phase of flood control remains unsolved, the whole economy of the Lower Mississippi River is gravely threatened, though the formidable levees may for a time lend an air of security. This is a task of great magnitude, one which will tax the ingenuity of the most skilled engineers and hydrologists and will call for nation-wide support. The "Mississippi Problem" must again become truly national.

II

In discussing the problem of flood control for the Alluvial Valley of the Lower Mississippi River, it is only fair to say at the outset that there is no complete, final solution to this problem. The largest and strongest levees offer only relative protection. Furthermore, it is extremely doubtful if the tendency of the Mississippi River to meander can ever be completely controlled and the river confined to a permanent channel. At least for the present, and for the foreseeable future, flood control in the Mississippi Valley must be relative, the results of balancing benefits received against cost of protective structures.

The balancing of benefits against costs is certainly not a new concept in Mississippi Valley flood control circles. In the 230-year history of levee building along the Mississippi, there has been a constant weighing of estimated benefits against available, or obtainable, means for constructing dikes, building floodways, and laying revetment mats. Every improvement in flood control, as noted above, has been followed by substantial agricultural and industrial expansions. Every industrial and agricultural expansion has brought increased demands for enlarged and improved flood works. Almost $300,000,000.00 was spent on building levees by state and local groups in the Lower Mississippi Valley before the passage of the first Federal Flood Control Act. The large sums raised in local levee taxes were a strong recommendation for the project when federal aid was being sought. Indeed, it is fair to say that the physical and economic feasibility of the Mississippi Valley flood control project was demonstrated before the United States Government undertook the major responsibility for the flood control program in the Mississippi Valley.

Since the passage of the Flood Control Act of May 15, 1928, about $1,350,000,000.00 has been authorized for flood control on the Mississippi and tributaries. The expanding economy of the Valley has fully justified the expenditure. Indeed, the growing capital value of the property protected by the controlling levees of the Mississippi would suggest a greater expenditure for flood control in the interest of a higher degree of security than is provided by the present levee system.

These observations are made to remove any doubt concerning the over-all fiscal soundness of the flood control project in the Mississippi Valley as it now operates. The project is nowhere near the edge of

economic feasibility. Economic expansions now taking place throughout the Alluvial Plain make it imperative that all steps needed to secure the Valley be taken promptly. This means a completion of the levee and floodway program as outlined by Congress and the development of a comprehensive program of bank stabilization.

Under present conditions, the possibility for development of an economically sound bank stabilization program is very good, but this is a problem where time is of great importance. Loss of land through bank caving not only endangers the present levee line but, by rapidly destroying the highly developed river front property, threatens the economic base of the entire flood control program.

III

In order to understand the importance of the bank stabilization program, it is necessary to have a general knowledge of the Mississippi Alluvial Valley and of the great River which built it and of the flood works which man has devised to protect the bottoms from overflow.

As the name "Mississippi Alluvial Valley" implies, the Mississippi River has been the principal agent in building the great plain which extends from Cape Girardeau, Missouri, to the Gulf of Mexico. During the last glacial period, when sea level was several hundred feet lower than present, the Mississippi River system cut out deep valleys in the coastal plain formation. During the subsequent period of rising sea level, these valleys were filled with sediment—a process which is still in progress—though the building of artificial levees has materially reduced the aggradation of the principal basins. This loss of soil building appears to be one of the "necessary evils" of flood control.

A very good idea of how the aggradation, or soil-building process, has operated in the Mississippi Alluvial Valley can be obtained from a study of the meander belt scars left throughout the Delta by large and small streams as they moved, and continue to move, back and forth across the floodplain, depositing heavy loads of silt during every high-water. In the past, as today, the streams of this Valley have had great variations in the amount of water which they must carry and, under natural conditions, have periodically overflowed. Thus, streams of the Alluvial Plain have built up "natural levees" by the deposit of coarser materials along their banks during each overflow. The "natural levees" built up in this way by the larger streams are extensive and are the most desirable of the alluvial deposits as they contain a mixture of silt with the heavier clays, which gives them good internal drainage and makes for ease of cultivation. Their superior elevation has usually assured good surface drainage—a factor of vital importance in an area of over sixty inches annual rainfall. The "natural levee" lands of the Mississippi River proper are the most extensive in the Valley. Indeed, the ancient channels of the Mississippi can be traced clearly by following the remnants of the natural levees built up at each successive relocation of the stream.

It is these higher lands along the Mississippi which are so highly prized for cotton and cane. It is here that the great antebellum plantations grew up and it is these wonderfully productive, easily-tilled soils which are the backbone of the prosperous and expanding economy of the Delta.

Desire to protect the valuable front lands has always led to placement of the levee as close to the River as possible. When the River was only partly confined,

rather low levees were sufficient to protect the developed land, and plantation owners were held responsible for the building and repair of levees along their river frontage. As the levee line was extended up the River, with the resulting confinement of an increased proportion of the total floodwater, more elaborate precautions were needed and a general tax program was developed in order to finance the flood control program.

In 1865 the Mississippi River levee protecting the Yazoo-Mississippi basin contained approximately 15,000 cubic yards of earth per mile. By 1882, it had been enlarged to include about 43,000 cubic yards per mile. The leveeing of the Tensas Basin on the west side of the river and the extension of levees into the basin of the White and St. Francis Rivers required repeated enlargements. By 1917, levees along the Yazoo Basin totaled 300,000 cubic yards of earth per mile. Under the Ransdell-Humphrey Act, this levee was, by 1927, increased to over 400,000 cubic yards per mile. After the 1927 overflow, another enlargement program was begun. The controlling levee protecting the Yazoo Basin now contains over 1,007,895 cubic yards per mile.

The need for such formidable levees came about gradually as the flood control program was extended to protect all of the major basins of the Alluvial Valley. The magnitude of this undertaking is more easily realized when it is recalled that about 1,244,000 square miles is drained by the Mississippi River. During an average highwater, about 1,220,000 cubic feet of water pass Vicksburg, Mississippi, every second. During a great flood, as that of 1927, the estimated confined discharge at Vicksburg was 2,278,000 cubic feet per second. During a flood year, a million-million tons of water may pass down the Mississippi.

Since the completion of the levee system, the River is largely confined to a trough about 3 miles wide, being deprived of the greater part of its flood plain, which has an average width of 45 miles and was used under natural conditions as a vast storage basin during great floods. This confinement has accentuated the naturally great difference between high and low water elevations in the Lower Mississippi River. The difference between *mean* low water and *mean* highwater is about 42 feet at the Arkansas City, Arkansas, gage (about the middle of the Yazoo-Mississippi Delta). The difference between *extreme* low water and *extreme* high at the Arkansas City gage is about 65.5 feet. It is easy to see that the levees required to take care of this great range in river stage must be not only high but strong and constantly reinforced.

While the increase in flood elevation due to the levee program seems great at first, particularly in the parts affected by the great tributaries, study and reflection have led many students of the Mississippi to feel that the increase in flood heights due to the building of levees has, considering the character of the Lower Mississippi, been remarkably small. Only about 1,000,000 cubic feet of water per second can be accommodated in the channel of the Lower Mississippi. Flood discharge frequently approaches 2,000,000 cubic feet per second. This means that about 1,000,000 cubic feet per second, which was formerly free to spread over the Valley, must be carried within the levees. This volume of water could never have been controlled by levees if there had not been a great increase in hydraulic efficiency in the leveed floodways over the flow through the larger natural basins. It is probably not an exaggeration to say that floodwaters move through the leveed floodway 6 to 8 times

faster than they moved if allowed to overflow and pass through the entire Valley in a thin sheet. It is for this reason that confining the Mississippi to a leveed floodway has not raised flood heights above the level which could be economically controlled by levees. How the efficiency of the leveed floodway has been increased is explained below.

IV

After the great flood of 1927, it was obvious that some drastic steps would have to be taken to improve the efficiency of the leveed floodway or provide for auxiliary floodways for use in years of great flood. The Jadwin Plan, which was accepted as the official program under the 1928 flood control legislation, called for the addition of several floodways which could be used as emergency means of relieving the river when the controlling levees were threatened. The Bird's Point-New Madrid Floodway was built in southeastern Missouri, but local protests halted the building of floodways in southeastern Arkansas and northeastern Louisiana for carrying floodwaters from the Arkansas and Mississippi River into the Atchafalaya basin thence to the Gulf.

With the plan for floodways interrupted, a bold attempt was made to speed the flow of the river, and thereby increase the capacity of the floodway by making artificial cut-offs at a number of the horseshoe bends which are a characteristic feature of the Mississippi between Memphis, Tennessee, and Natchez, Mississippi. Prior to the experiments begun in 1932, flood control engineers had almost universally condemned cut-offs as a method for control of the River. Much money had been spent in revetment where caving bends threatened to produce natural cut-offs, a process well described by Mark Twain and familiar to all students of the Mississippi. It was the general belief that cut-offs raised the flood plain below the cut-off as much as they lowered it above and, therefore, would offer no solution to the flood control problem. It was frequently said that cut-offs would upset the regimen of the river and produce all manner of evil consequences for the levee program. The fact that natural cut-offs were more or less catastrophic events, often taking place in a few hours during the height of a flood, led to a fear of the consequences of any attempt at shortening the river.

Early in the 1930's, experiments in the meander model of the Mississippi River at Vicksburg suggested that cut-offs might be a more effective means of increasing the efficiency of the leveed floodway than had heretofore been supposed. In 1929 a cut-off was formed by natural means at Yucatan Point. This unusual cut-off took place in such a way as to suggest that cut-offs might produce many desirable results without great risk of damage. On the strength of experimental evidence and new observations, the long-standing precedent against cut-offs was set aside and a new era in the evolution of flood control engineering in the Mississippi Valley was ushered in.

From 1932 to 1939, thirteen cut-offs were made between Arkansas City, Arkansas, and Natchez, Mississippi, including the famous Greenville Bends. The River was shortened about 115 miles by the removal of these bends. In addition, there was considerable further shortening as a result of enlargement of chutes and channel straightening.

The importance of the cut-off operations in the River cannot be overemphasized. A whole new concept of river action was created, based on the planned use of the River's own tremendous energy and the adjustment of the channel to energy, load, and banks. The most obvious benefit of the cut-off

program was the lowering of flood levels from ten to fifteen feet above Vicksburg. With this reduction in flood height, due to increase in channel efficiency, the controversial floodway plans could be safely abandoned.

With the completion of the cut-offs and related channel improvement works, it is safe to say that the Mississippi has the best alignment, the best channel for navigation, and the greatest flood-carrying capacity that it has ever had. This improved Mississippi is the result of 200 years of effort. For this great work to be threatened by failure to place adequate revetment would, indeed, be a national calamity.

V

If the Mississippi River flowed in a fixed channel, the problem of flood control in the Mississippi Valley would be just about solved. We have learned how to build high, strong levees and how to reinforce them when weak spots develop during high water. But the Mississippi River does not hold to an established channel, it ". . . . is held in place near the head of its Alluvial Valley by the gorge in the Commerce Hills. Its mouth in the Gulf of Mexico is fixed by the works of man. [The jetties designed by James B. Eads.] Between these points it writhes like an imprisoned snake, constantly seeking to establish and maintain a state of equilibrium between its length; its slope; and the volume and velocity of its discharge."[1]

Caving banks present the greatest threat to a successful flood control program in the Mississippi Valley. The River banks between Memphis and Vicksburg are particularly subject to caving. Hundreds of miles of levee have been lost along the Yazoo-Mississippi Delta front since levee building was begun in this basin. Many of the early levees were built close to the River with the knowledge that they would soon be undermined and that replacements farther back would be made. When the levees were low embankments, hastily constructed with scrapers, their loss was not disastrous, though it was a serious burden on the struggling economy of the Delta. With the increase in the size of levees, the loss through caving banks became more serious and at times threatened the entire levee program. For this reason, development of a means to stop, or materially check, caving, and thereby stabilize the channel, became as important a part of flood control engineering as levee building.

Today the greatest problem in Mississippi Valley flood control is the stabilization of the caving banks of the Mississippi River, that the levee line may be undisturbed and a deep navigation channel maintained. Unless the River is confined to a relatively fixed channel, frequent set-backs of the levee will be required. Because of the size of present day levees, it is very costly to make set-backs. But more important than the cost of set-backs is the loss of productive land, which continued bank caving implies. The loss of industrial sites, harbor terminal facilities, and pipe line locations are also damages chargeable to the unstable channel of the Mississippi. The control of river meander is just as essential to the maintenance of a satisfactory navigation channel as it is to the safety of the levee line.

River meander is a complex phenomenon. In the present Mississippi River, meander is directly related to the volume of discharge and to the character of the bed materials through which the river flows. Meanders can develop only in bed material which permits scouring and bank caving and downstream trans-

[1] D. O. Elliott, *Improvement of the Lower Mississippi River for Flood Control and Navigation, Vicksburg*, 1932, p. 44.

fer of sediment. In the north and central parts of the Alluvial Valley, coarse sediments lie close to the surface and make for a very permeable bank. Furthermore, at many points in the north and central portions of the Valley, the river cuts deep into coarse alluvium laid down in the early geologic history of the Valley. Farther south, where fine-grained sediments predominate, river meander is much less pronounced and the levees, built near the river bank, have remained relatively undisturbed for long periods. It is clear from the irregular distribution of meanders in the Mississippi River that they are an expression of local river adjustment to the complex factors which control stream activity.

The increase in flood slopes and current velocities, resulting from the shortening of the river by cut-offs, are certain to cause increased bank caving and meander. In view of the very high permeability of the bank sediments along the Yazoo-Mississippi Delta front, an increased rate of caving constitutes a real threat to the safety of the Delta. The development of new meanders not only threatens the levee line, making costly set-backs essential but, by increasing the length of the River, it destroys the advantage of the lowered flood heights obtained by making cut-offs. This means that not only would set-backs have to be made but that the entire levee line would have to be raised.

The most casual study of the meander history of the Mississippi River in its middle position is sufficient to show the great probability, really the certainty, that the River will lose its present good alignment unless the banks are stabilized with revetment and corrective dredging is practiced on a scale not attempted in the past. As noted above, the River now has the best navigation channel and the greatest flood-carrying capacity that it has ever had. Very large sums have been spent to obtain these ends. Prudence requires that every possible step be taken to prevent deterioration of such hard-won improvements.

An understanding of the serious need for bank stabilization work can be gained by review of the bank condition in a portion of the Mississippi Levee District. From Caulk Cut-off (a few miles above Greenville, Mississippi) to Fitler Bend by the present river is about 100 miles. Before the cut-off project was started, the river here was 167 miles long due to the highly developed bends. The presence of numerous ox-bow lakes, as Lake Bolivar, Lake Chicot, and Lake Washington, are evidence of still earlier bends which were cut off by natural processes. Geologists have located, by the study of soil deposits, dozens of former positions which the River has assumed in the relatively recent geologic past. A study of the pattern of these former channels suggests that the River will seek to regain the length taken in cut-offs. But even more positive proof can be seen in the recent experience with caving banks in this part of the River. Within the last 10 years the main line levee in the reach depicted has been set back under emergency conditions at Cypress Bend (5 miles of new levee), at Cracraft Chute (4 miles), and at Homochitto (3 miles). Serious conditions have also developed at Miller Bend, Kentucky Bend, and below Fitler Bend. In addition to these points, caving is active in Choctaw Bend, Tarpley Cut-off, American Cut-off, Worthington Cut-off, Island 93, and at the foot of Lake Providence Reach. Probably 40 miles of new revetment would be required to secure the caving banks in this part of the river.

VI

It now appears that between 220 and 250 miles of bank stabilization work is needed on the Lower Mississippi in addi-

tion to the work which has already been done. In view of current costs, this work would almost surely cost 250 to 300 million dollars. Even if funds were available, such a volume of revetment as this program requires would have to be laid over several seasons. The most urgent need is found in the section between Mhoon Landing (in Tunica County, Mississippi) and Natchez, Mississippi, as this is the section straightened by cut-offs and improvement dredging with consequent benefits to navigation and flood control.

In the past it has been the practice to undertake revetment only at those points where it was deemed essential to hold the channel, as at harbors and places where it is particularly difficult to make a setback in the levee. This policy naturally led to the placing of revetment at widely separated points. It is now abundantly clear that this type of bank stabilization program will not be of any permanent value and that it involves the same kind of temporizing found in the early levee program. With patches of revetment scattered irregularly along the river bank, caving and bar formation have continued with consequent movement of the bends downstream in such a way that much of the revetment is soon masked by bar formation, while the cutting is transferred to a point downstream. In other words, scattered revetments are soon out-flanked by the river, which changes its position and direction before intermediate work can be placed.

The only way to prevent this loss is to place revetment in a systematic fashion, reach by reach, working downstream. By working downstream from naturally or artificially stabilized locations, it should be possible by dredging to improve the alignment in many reaches. Channel improvement dredging and bank stabilization must go hand in hand. Without a program for systematic bank revetment, the Mississippi River will surely continue to cave its banks and wander over an area 15 to 18 miles wide through the center of the Valley. The loss for cultivation of so great a part of the Alluvial Valley would seriously jeopardize the economic basis of the entire flood control program in the Mississippi Valley. The seriousness of the situation is shown by the loss in the Mississippi Levee District of almost 100,000 acres to the river since the 1867 levee line was established. The river front lands are the best in the Delta and, if they are lost, it will be difficult indeed to justify the building of levees to protect the remaining interstream areas.[2]

VII

Bank stabilization on the Mississippi River consists of placing a protective coating on the bank of the river where cutting is taking place. As the primary cause of bank caving is scouring in the river channel, which destroys the balance between stream bottom and bank sediments, it is obvious that the protective work must be under water and sufficiently strong to resist river current. Treatment of the exposed bank is carried out as part of the revetment process. As the cutting of the bank takes place under water, it is obvious that programs for sodding or otherwise protecting the exposed bank are not effective measures against bank caving by the Mississippi River.

Two types of bank revetment have been found effective for the middle part of the Mississippi: articulated concrete revetment and willow fascine mattresses. North of Vicksburg, river currents are too swift for successful use of sheet asphalt as a revetment.

[2] It is true that the river never destroys any land, as bar formations probably equals bend caving, but you can not farm a sand bar and it takes many hundreds of years, even thousands of years, for the bar to become a fertile soil.

The placing of concrete revetment and the sinking of willow mats require an enormous amount of floating equipment. In the past, the amount of work to be done has never been sufficient to interest private contractors. Consequently, it has been necessary for the United States, with some help from the levee boards, to undertake this work with hired labor and government-owned equipment. Under these conditions, the cost has remained high. There is little doubt that costs would be lowered if sufficient work was assured to warrant contractors in the purchase of capital equipment essential to bank stabilization work. Doubtless, new designs for revetment and improved methods of placing it would follow from the opening of this field to competitive bidding.

In recent years very extensive geological studies of the Mississippi Alluvial Valley have been carried out under the auspices of the Mississippi River Commission. These studies show that, "with its diversion through Thebes Gap, the Mississippi River established for the first time a comparatively deep-water channel from the head of its alluvial valley to the Gulf of Mexico. From the standpoint of flood control and navigation, this channel is the best that has existed in the history of the alluvial valley."[3] Since the diversion of the River through Thebes Gap, it has shown no tendency to aggrade or to degrade its channel and may be considered a poised stream. "The poised condition is shown in the similarity of present channel depths and cross section with those of abandoned meanders, and in the similarity of heights of natural levees along the present and older channels of the meander belt. Further proof is exhibited in the nearly constant length and over-all slope maintained by the river throughout the stages of development of its present meander belt."[4] The over-all equilibrium which has apparently been established in the Mississippi River between the important factors controlling river activity is of profound importance to the river engineers as it offers hope of a permanently controlled river for navigation and flood control.

[3] Cf., Harold N. Fisk, *Geological Investigation of the Mississippi Alluvial Valley, Miss. River Commission*, 1944, p. 55.
[4] *Ibid.*, p 50.

Wilderness Areas: An Extra-Market Problem in Resource Allocation

By L. GREGORY HINES*

I

EXTRA-MARKET direction of resources to activities which fall outside the control of the pricing system is an important but neglected economic problem. In investigating the operation of our economic system, economists generally have confined their attention to price and value determination in the market place. Such an approach runs the serious risk of producing either truistic or tautological results—albeit formally impressive—depending upon whether the economist's conceptual system is an accurate replica of the actual economy.[1] The preoccupation with market valuation has severely limited the economist's field of investigation and in some cases considerably reduced the relevancy of his conclusions. Extra-market problems have sometimes been avoided on the ground that they are essentially non-economic in nature and encourage unscientific value judgments in analysis because of the inability to make use of a precise and measurable criterion.[2] However, it is hardly justifiable to dismiss a basic allocation problem as non-economic simply because it does not easily fit the mold of orthodox price theory. Thus, military actions—and virtually all actions—create economic problems, not because the expenditures of the military are measurable in terms of dollar units, but because such outlays reflect and affect the pattern of resource allocation in the economy. It is obviously convenient to be able to measure economic factors precisely, but the inability to do so does not absolve the economist of responsibility for investigation and analysis. In turn, only limited validity can be assigned to the contention that the arbitrary delimitation of economic analysis to forces expressed in terms of market calculations prevents the intrusion of value judgments. The great need is that economists understand and make explicit their value judgments, rather than seek the sterility of a purely formal analysis. Certainly, scientific objectivity cannot be achieved simply by following the rigorous application of price theory; scientific endeavor demands something more of its workers. But even if the contention could be accepted that economists are somehow insulated from value judgments when they use market-price analysis, an obvious criticism remains: the selection of problems for analysis and the quantitative data used may betray (or conceal) as much value judgment as the interpretation and evaluation of non-quantitative data.[3]

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[1] Economists have developed ingenious techniques to describe and explain the operation of our market economy under a variety of conditions. However, the consideration of extra-market phenomena has usually been limited to the social cost doctrine which acknowledges the possibility of private enterprisers shifting a part of production costs to society. The classic treatment of this doctrine is found in A. C. Pigou's *Economics of Welfare* (London: Macmillan, 4th ed., 1932). A considerably more specific application of this doctrine is presented in K. W. Kapp, *The Social Costs of Private Enterprise* (Cambridge: Harvard University Press, 1950); see also, R. T. Bye, *Social Economy and the Price System* (New York: Macmillan, 1950). J. M. Clark goes beyond the "negative" consideration of extra-market factors in recognizing the need to supplement market valuations by non-price criteria in determining the allocation of some productive resources. See especially, J. M. Clark, "Toward A Concept of Social Value," *Preface to Social Economics* (New York: Farrar & Rinehart, 1936).

[2] I.e., price determined by market forces. See P. Streeten, "Economics and Value Judgments," *Quarterly Journal of Economics*, November 1950, for an abbreviated discussion of such issues.

[3] See J. M. Clark, "The Socialization of Theoretical Economics," *Preface to Social Economics* (New York: Farrar & Rinehart, 1936), pp. 10-12.

Fortunately, the critical question is not whether the use of price theory provides methodological advantages. It clearly does through the limitation of the area of investigation and simplification of the problem of analysis to proportions commensurate with the ability of the economist. However, through over-emphasis upon market phenomena, economists may dismiss extra-market forces as non-economic, unimportant, and unworthy of their "scientific" attention. In short, they may fall victim to what Viner severely characterizes as "an all-too-prevalent methodological fanaticism which prefers the accurate but superficial to the approximate but fundamental, and which makes adaptability to its peculiar technique of investigation, rather than importance, the standard for the selection of problems and the delimitation of the scope of its inquiry."[4] Quite clearly the economist's choice of problems for investigation should not be based solely upon the narrowness of the market place. Thus, if the fulfillment of a desire results in the reorganization or use of resources, it must be conceded to raise economic problems—even though the original desire may be traditionally classified as an expression of non-economic interest. Such an interpretation does not change the familiar statement of the problem of economics as that of apportioning scarce resources among competing uses, but it does re-emphasize the broad and inclusive nature of this problem. This re-emphasis is of more than passing importance because two strong forces appear to be driving more and more economic decisions out of the market place: (1) the improvement in our material standard of living as indicated by increased national income and product, which in turn provides additional leisure and interest in the satisfaction of desires in addition to man's primary needs (traditionally classified as economic), and (2) the assumption by the state of extensive authority over economic resources, which authority in some cases is used to supplement or remove economic decisions from the control of the free market. J. M. Clark recognizes this type of problem in the distinction which he draws between "market price" and "social value," outlining three situations in which market prices may not accurately reflect true economic value.

"One is that the problem of collective efficiency of private enterprise involves quantities and qualities, of which actual market prices are not the only measure, and, I would add, some of which command no market price at all under present conditions. . . . . Another is that measures of value which may be less exact than those of the market are also more fundamental. And a third is that our most fundamental concepts should be independent of institutions of competitive exchange; they should be such as would hold even in a socialist state."[5]

Clark's concept of social value is much broader than the orthodox doctrine of social cost which designates the loss suffered by society (or individuals) as a result of private productive activity.[6] The broader, positive concept of social (economic) value recognizes the importance of objectives which ordinarily cannot be satisfied through the private enterprise system, as well as possible distortions in the operation of this system. In addition, since the distortion of resource allocation may occur not only

[4] J. Viner, "The Utility Concept in Value Theory and Its Critics, II," *Journal of Political Economy*, December 1925, p. 659.

[5] J. M. Clark, "Toward A Concept of Social Value," *op. cit.*, p. 44.

[6] Kapp defines social costs to cover "all direct and indirect losses suffered by third persons or the general public as a result of private economic activities." *Op. cit.*, p. 13. As is suggested below, such a cost doctrine is unduly restrictive on two counts: (1) it ignores a substantial element of economic loss to the public which results from government misdirection of resources, and (2) it considers the private misallocation of costs, but neglects losses to society from the failure of the economic system to provide the positive direction to resource desired by the majority.

because of what private enterprisers do, but also as a result of state action and inaction, a balanced analysis must include an appraisal of what society would like produced with available resources, as well as consideration of the unwanted by-product of private-enterprise production. Although an investigation of the attempt to obtain the socially (and economically) optimum resource allocation is clearly an economic problem, it requires more than an investigation of the competitive calculus to attain significant inferences. The neat, measurable problems of the market place with their methodological symmetry may represent only a small and unimportant part of the broad allocation problem. Fortunately, it is possible to break off small segments of this broad problem for analysis without entailing such a comprehensive undertaking that the economist's talents are useless.

II

The failure of the pricing system to integrate the full variety of the public's desires is well illustrated in the case of apportionment of public lands to wilderness areas and national parks and monuments.[7] The protection of wilderness areas cannot be achieved without intervention by the government in withdrawing such resources from private exploitation. As a result, the establishment, protection, and use of wilderness poses a multiple-use problem in land economics which involves complex interrelations among the public, the private enterpriser, and the government. Some of these interrelations will be suggested below.

The necessary prerequisites for wilderness are found in those areas in which man-made developments and commercial exploitation have been excluded; in addition, the region must possess some unique (or typical, as the case may be) characteristic which society desires to preserve in its original state. This means, not that the area is useless to man, but that man's use of such a region is contingent upon leaving it in an undisturbed condition. Construction of highways and lodges, cutting of timber, the use of mechanical conveyances such as planes and motor launches which are unharmonious or detrimental to the natural character, must be prohibited.

Virtually all the land areas in the United States which can qualify as wilderness under the above loose definition are under the jurisdiction of the federal government, of which the U. S. Forest Service of the Department of Agriculture has the main responsibility for administration and protection. The Forest Service classifies such regions into three main divisions. *Wilderness areas* are restricted to National Forest lands of not less than 100,000 acres in a single tract. No roads or commercial developments are permitted, and only those changes required to protect the region, such as fire-control installations, are allowed.[8] *Wild areas* are small wilderness regions covering less than 100,000 acres but more than 5,000 in a single tract. A hybrid classification, the *roadless area*, provides a modified type of control for regions which approach wilderness or

[7] Although "wilderness areas" are defined below in the technical sense, for purposes of this article such regions will not always be clearly differentiated from primitive areas in national parks and monuments exhibiting roughly similar characteristics. In addition to serving as an excellent illustration of the problem of extra-market resource allocation, the preservation of wilderness areas is in itself sufficiently important to merit careful attention by economists. The explicit value judgment in this section is that the public interest in such areas should be recognized and protected.

[8] However, grazing of domestic livestock may be permitted subject to restrictions imposed by the Chief of the Forest Service, and use of planes and motor launches is sometimes allowed if such practices have become well established prior to the designation of the wilderness area. U. S. Forest Service, *National Forest Wilderness Areas* (Washington, D. C.: U. S. Department of Agriculture, undated, mimeographed), p. 2.

primitive conditions, but where less rigid enforcement of the wilderness principle seems desirable, or where a compromise with other objectives is necessary.[9]

The wilderness areas of all of the above types make up less than one percent of our total land area and approximately eight percent of National Forest land[10]—an area smaller than that covered by the developed highways in the United States. In turn only a fraction of the one percent of land reserved to wilderness contains resources which might otherwise be put to commercial use. Our remaining wilderness has been left in inaccessible and sometimes remote regions, generally unwanted or unusable in the early rush of westward expansion. Much is above timberline, selected as typical exhibits of the Rockies, Cascades, Sierras, and other sections of the country. These remaining samples of primitive America are as varied in type and location as the unique lake country of the Superior Roadless Area of northern Minnesota and the rugged San Jacinto Wild Area east of Los Angeles.

The social-economic justification for permitting certain areas of the country to remain in approximate wilderness condition must be determined by a careful appraisal of the alternative uses of individual land areas. Since a multiple-use land problem is involved, no rule-of-thumb generalization is very meaningful. However, certain possible uses of wilderness can be noted, along with the place such areas are likely to occupy in our future development.[11] Wilderness is no longer a deterrent to progress. The barrier to productivity which it once represented in the frontier days has disappeared, but the frontier viewpoint persists to distort our conception of a current problem. Following the same principle of zoning that cities enforce to prevent the obliteration of aesthetic and historic values by routine commercial undertakings, the nation would seem to have ample justification for the preservation of at least a small part of the continent in its unspoiled condition. However, the issue is not the simple conservation problem of preserving resources for future use; it also involves the immediate issue of how we can gain the most from our existing resources. Wilderness areas represent only a very modest storehouse of depleting resources, but they provide certain of the physical and biological scientists with a ready-made laboratory, furnish adjacent regions with wildlife stock, and offer a unique aesthetic experience to many who enjoy outdoor activity without the omnipresent reminders of industrial civilization.[12]

The mechanization of industry, together with the development of the auto-

[9] The Quetico-Superior canoe country region in northern Minnesota and southern Ontario is an outstanding example of an important roadless area which has some of the characteristics of a wilderness area. This region has been more or less continuously threatened by commercial developments since it was established as a recreational region, first by hydroelectric developments and later by airplane-serviced resorts. The latter threat has been temporarily averted by the promulgation of an airspace reservation through executive order, signed by President Truman on December 17, 1949, to become effective by degrees after January 1, 1951. See *The Living Wilderness*, Winter, 1949-50, p. 26, and R. E. Bassett, "Zoning As Applied to Wilderness," *Planning and Civic Comment*, January-March, 1950.

[10] U. S. Forest Service, *National Forest Wilderness Areas*, p. 1.

[11] It is a common characteristic of specialists to overstate the importance to the general welfare of their particular interest. Some of the statements on the desirability of conservation and "ecological balance" have invited ridicule by other specialists who feel their private domain has been invaded. See, for example, the review of W. Vogt's *Road to Survival* (New York: William Sloan, 1948) by K. Brandt, *Land Economics*, February 1950, p. 88. *The Road to Survival* undoubtedly illustrates the popular, and in some aspects erroneous, overstatement of the need for conservation, but economists have an unfortunate tendency of assuming that "food, fiber, and feed" are the only desirable land products. For a thoughtful presentation of some of these issues, see A. Leopold, *A Sand County Almanac* (New York: Oxford University Press, 1949).

[12] The importance of this latter use should not be depreciated because of the familiar characterization of the slightly ridiculous "nature lover." Over thirty-one million "nature lovers" of varying degrees of enthusiasm visited our system of national parks and monuments during the 1949 season.

mobile and an extensive highway system, have created both the need and the means of exploring different parts of our country. The large number of resorts and recreational areas in the United States devoted to hunting and fishing and less specific outdoor activities is tangible proof of the importance of non-urban vacations to the American people. However, we are fast reaching the saturation point in the development of our resort industry. The prospect of driving larger and faster cars through a network of bigger billboards to arrive at a television-equipped lodge hardly represents a stimulating outdoor experience for many. Wilderness areas can furnish the necessary antidote to this trend, and at the same time help to furnish a sound base upon which resort development can take place. Essentially this is a zoning problem on national scale. An adjacent area in which commercial exploitation has been restricted increases the attractiveness of the lodges and recreational regions located on its boarders. Wildlife spilling over from the protected area can help maintain the proper balance between game and hunter, and also give the non-hunter the opportunity of viewing wildlife in an approximation of its natural environment. Few would argue that Yellowstone National Park should be classified as a wilderness area, but certainly much of the Park's attraction is dependent upon the surrounding wilderness which provides the habitat necessary for the development and preservation of unusual wildlife species.

The importance of the wilderness area to the ecologist is great, but of relatively recent popular recognition. Ecology, the study of plant and animal life in relation to environment, is at least as old as Darwin's voyage on the *Beagle*, but our indifference to resource conservation has delayed our interest in this science. Development and growth, disease and death of plants and animals differ in various environments. The apparent harmony of nature in the wilderness area is the result of an intricate interaction of destructive and creative forces among vast numbers of interrelated plants and animals. The ideal laboratory for study of these factors is the wilderness area, and more knowledge of how the system of natural checks and balances works will give man a better chance of working with the system to meet his needs.

A superficial contradiction attends the wilderness use problem. For wilderness to be most useful to society, it must remain unused in the traditional commercial sense because such an area has greater economic value in its primitive state. Our present thinking is so much a heritage of the past that we believe that only when some dramatic man-imposed change has modified resources are we progressing through an increase in productivity. We do not seriously question the desirability of increased numbers of television sets and more highway mileage; it is change by man, therefore it is progress. The native Thoreau, who preached restriction of wants instead of increase in material goods, is more likely to convert an Indian mystic than to influence an American business man or trade unionist.

No commercial endeavor can be justified solely because it is profitable. Freedom of consumer choice must at least stop short of the point where greater injury to others overbalances the benefit to the original consumer or producer. Applied to the wilderness problem, the question becomes: What values are lost by some individuals (and society) in comparison with the gain to others from the privilege of private exploitation of primitive areas? Is the gain to the rancher through grazing rights, and to

society from more food and wool, greater than the loss to society from possible destruction of top soil from erosion and the elimination of plants and animals competitive with sheep raising? What of the interests of those purists who would like to preserve the wilderness in its original state? What is the loss to society if disease from domestic sheep spreads to wildlife in the area and destroys much of the latter? Is the loss to the hunter and camper compensated for by the gain of the sheep herder?

Questions of this type generally do not trouble us in the normal conduct of economic affairs because they are answered at least by approximation through the operation of the price mechanism. In the case of wilderness areas, however, neither the non-commercial use nor the overall value to society has a price tag indicating its worth.

So long as substantial differences in income distribution remain in our society, the pattern of resource allocation in our economy has no particular ethical justification apart from the given income distribution. As a result, the economic desires and aspirations of the lower-income groups are not so well satisfied as those of their more opulent neighbors. In some cases, the use of resources to satisfy the demand of one income group may reduce the economic well-being of another group. Thus a lodge serviced by air in the Superior Roadless Area may be a boon to the affluent fisherman, but a thorn in the side of the canoeist in search of solitude and abundant fish. It is quite possible, of course, that the affluent fisherman may also be interested in the preservation rather than the spoilation of the wilderness, but unfortunately in this event his affluence is of little use in satisfying his desire. Action to preserve wilderness must take the cumbersome form of writing one's congressman, or the expensive alternative of buying out and destroying the commercial developments.

The failure of the market economy to furnish an accurate indication of how such resources should be used requires extra-market direction of resources. In turn, our familiarity with the reasonable efficiency of our economy encourages us to attribute social value to *all* profitable enterprise. But where market decisions are based on incomplete information, the desires of some—including future generations—cannot be satisfactorily expressed. In deciding how to use such resources, the broad interests of society and those of the less articulate individuals are frequently sacrificed in favor of the more aggressive private enterpriser operating through well-organized pressure groups.[13] Pressure is almost continuously directed against the federal agencies administering wilderness areas to modify area classification and permit increased scope for private exploitation.

III

Three basic problems arise in the allocation of resources to wilderness areas: (1) the determination of the public interest, (2) the protection of this interest from commercial exploitation, and (3) the prevention of government encroachment. Obviously precision in the determination of the public interest cannot be expected, but certain safeguards can be established to insure that the general welfare is not ignored. Since wilderness is not replenishable, proposals for its elimination should be most carefully considered. To a greater extent than is true of other resources, the commercial exploitation of wilderness is likely to be cumulative: that is, a small amount of commercial exploitation will change (and destroy) the essential character of the

[13] For example, the Joint Stockmen's Grazing Committee of the National Wool Growers Association and the National Livestock Association. See *The New York Times*, December 23, 1950, Sec. 2, p. 20.

region. As a first condition, then, the burden of proof of the social desirability of modification of area classification should be placed upon those suggesting such change. Secondly, an effective administrative procedure must be devised which will eliminate the bias in public hearings called to determine the validity of modification demands. More than the population centers near the wilderness region must be consulted in deciding whether change should be made. Small local communities are not representative of the public interest in their attitude toward adjacent wilderness regions because of the self interest such localities have in the commercial development of such areas. Since the competitive calculus of the market place cannot be relied upon to reflect society's wishes in this instance, more than normal care must be taken to protect the public interest.

Given the desirability of preserving wilderness, revision of present mining law is essential to secure relief from purely trivial commercial exploitation. Although the areas classified as wilderness by the Forest Service have been withdrawn from the public domain, such land may still be patented or leased by private individuals to carry on mining operations.[14] If a valuable mineral deposit is discovered ("valuable" mineral being one justifying expenditures for its extraction), land in the wilderness area may be entered and patented with no controlling administrative discretion reserved for the federal government.[15] The government has no authority to determine whether the deposit is sufficiently worthwhile to justify destruction of the wilderness character of the region, nor is provision made for supervision and control of mining operations in order to minimize social loss. However, the inadequacy of the current mining law does not stop here. Most mining claims are not located for mining purposes at all, but simply as a guise to permit commercial activities otherwise restricted, such as sale of timber, tourist trade, grazing of domestic livestock, and similar nonmining operations.[16] As long as the pretense of mining is continued, no matter how incidental and unprofitable, the government has no authority to intervene.

The Mineral Lands Leasing Act of 1920[17] is somewhat to be preferred to the earlier law covering gold, silver, and other minerals. No patents are granted under the Mineral Lands Leasing Act and the United States retains title to the land, receives royalties, and may make certain specifications within the lease framework. However, since the original intent of the Leasing Act was to encourage the exploitation of mineral deposits, insufficient recognition is given to the wilderness value of the lands concerned. In any case, the operations of the mining contractor under lease may be just as destructive to social values as when the property mined is privately owned. No wilderness policy could possibly withstand the discovery of an important and valuable mineral deposit —nor should such a deposit be withheld if needed by society—but present mining laws must be revised if the public interest is to be protected against purely trivial private gain.

The third great threat to wilderness values comes from the government itself. This paradox is a by-product of the diverse objectives and methods of large-scale government. The Army Engineer

[14] C. F. Keyser, *The Preservation of Wilderness Areas* (Washington, D. C.: Library of Congress, 1949), [Legislative Reference Service, Bulletin No. 19], p. 30.

[15] 30 U.S.C., 21 *et. seq.*

[16] "Conference on Revision of United States Mining Laws," *Hearings*, Special Subcommittee on Public Lands, (House of Representatives, 81st Congress, 1st Session, October 1949), pp. 3-4, *passim.*

[17] 30 U.S.C., 181 *et. seq.*, covering oil, oil shale, natural gas, potassium, phosphates, coal and sulphur.

Corps builds dams with a sort of technical monomania, and the Bureau of Reclamation is just one step behind this agency in its disregard of fundamental values other than those it is designed to promote. The activities of these two agencies are deeply enmeshed in the politics of the pork barrel, and they frequently compete with each other in offering the same community rival development projects.[18] Only the politically naive would expect radical change in the conduct of these agencies, but some improvement might result from reorganization along the lines suggested in the Hoover Commission Reports. The farther the policy-making procedure is removed from the level of the operating agency, the greater is the likelihood that both the benefit and injury to the public will be considered. It should not be necessary to fight off attempts by the Army Engineers and the Bureau of Reclamation to dam rivers and streams with complete disregard of other values every time projects for flood control, power, or irrigation are proposed. Recent illustrations of such engineering blindness are the proposed Glacier View Dam in Montana, which would flood a scenic area of approximately 20,000 acres within Glacier National Park to impound water for power and irrigation projects, and the reservoir development planned in Dinosaur National Monument on the Utah-Colorado border. Possibly the most important step toward a rational national wilderness program would be the enforcement of principles of public interest on federal agencies such as the Army Engineers and the Bureau of Reclamation.

In the last analysis, however, the most important contribution toward the preservation of wilderness values must go beyond the prohibition-of-entry type of restriction. So long as inadequate conservation practices are followed in the use of land and timber resources in general, no wilderness—no matter how small—will be able to withstand the pressures from depleting resources and increasing need.

[18] The Army Engineer Corps administers Congress' juiciest political plum, the Rivers and Harbors bill, which has made this agency virtually immune from Presidential and Departmental control. The Bureau of Reclamation deals in irrigation, the sacred cow of the West, and can depend upon strong support from the powerful western Congressional bloc. See Hoover Commission, *Task Force Reports K* and *Q* (Washington, D. C.: Government Printing Office, 1949); *The Hoover Commission Report* (New York: McGraw-Hill, 1949), Ch. 12; "Investigation of the Bureau of Reclamation," *Hearings*, Committee on Expenditures in the Executive Departments, (House of Representatives, 80th Congress, 2nd Session, 1948); and M. H. Saunderson, *Western Land and Water Use* (Norman: University of Oklahoma Press, 1950).

Rent Control and Housing: A Case Study

By LLOYD RODWIN*

SEVERAL eminent writers have argued that a free housing market would avoid difficulties allegedly associated with rent control; namely, shifts of houses from tenancy to ownership status, impeded housing production, and inefficient use of housing resources.[1] If these views are correct, the policy of rent controls ought to be seriously reexamined. It is somewhat surprising, however, to find almost no adequate empirical tests of these claims, especially since relevant data based on the experiences of communities following World War I are available for this purpose. This article provides a test case study utilizing evidence drawn from Boston's housing history during this period.

Tenure Shifts

Following World War I, Boston like other cities experienced a critical housing shortage. Fundamental reliance was placed on market adjustments to deal with the situation. In the absence of government control, rents and sales prices rose sharply. According to the Bureau of Labor Statistics Consumer's Price Index for Moderate Income Families, rents rose from 88.2 in 1914 to 135.8 in 1925, or approximately 54%.[2] Price increases for new houses during the same period averaged about 100%.[3] Old houses also had risen in value. Only 23.6% of the owner-occupied houses were valued below $5,000 in 1930 as compared with 39.3% in 1920; and 32.2% over $10,000 in 1930 as compared with 11.7% in 1920.[4] Whatever public action was taken during the early twenties does not seem to have significantly interfered with the normal responses of the price mechanism.

Increases of real income occurred during the war and after the depression of 1921, and toward the end of the decade when prices began to decline. During the height of the inflationary period, however, the gains to a large extent appear to have been neutralized or reversed for many families. Much consumer pressure on rental housing could therefore be expected with ownership embraced by many only because of the absence of agreeable alternatives.

A huge scramble for apartments did in fact occur. Those who could not find homes or who could not afford the high rent levels doubled up or "colonized," as it was then termed.[5] Others with more income vied to outbid the next fellow. An apparently frequent landlord practice during the period seems to have been the service of eviction notices on blocks of houses. Potential ex-tenants were then allowed to make new rent offers for their apartments. This practice frequently occurred several times during the year.[6] Often notices were served during the winter after the tenants had purchased their coal (which was scarce and expensive), thus catching them in a rela-

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[1] The theoretical merits of these claims have been analyzed by this writer in another article. See L. Rodwin, "Rent Controls and Housing," *Social Research*, September 1950, pp. 302-319.

[2] Bureau of Labor Statistics, "Consumer's Price Index for Moderate Income Families," Boston, Mass. (1914-48), Washington, D. C., mimeographed, p. 1. This estimate may be low. Cf., S. F. Maisel, "Have We Underestimated Increases in Rents and Shelter Expenditures," *Journal of Political Economy*, April 1949, pp. 106-117.

[3] The percentages are based on the Boeckh Index for frame and brick residences. *Housing Statistics Yearbook*, Housing and Home Finance Agency, U. S. Printing Office, 1948, Tables 29 and 30, pp. 34-35.

[4] Fourteenth Census of the U. S.: 1920, *Mortgages on Homes*, Monograph II, p. 192; and Fifteenth Census of the United States: 1930, *Population*, vol. 6, *Families*, p. 60.

[5] *Report of the Special Commission on the Necessaries of Life*, Commonwealth of Massachusetts, January 1925, House No. 1210, p. 34.

[6] *Ibid.*, House No. 1500, 1920, pp. 96-98.

tively immobile situation. A large number paid an exorbitant percentage of their income—sometimes as much as 25%-40% for rent.[7]

Higher rents also accentuated the pressure to buy and to sell, as well as the tendency to view the responsibilities of ownership with relative optimism. Before and after the 1921 depression the general disposition was to believe that the country was on a continually rising economic spiral. Many borderline families who could with some strain on their resources meet the ownership requirements probably underestimated the responsibilities involved, especially since the national and local campaigns in favor of this step received endorsement from all respected groups in society. For many families, moreover, ownership was not more expensive. Tenants in fact were generally urged to purchase homes to escape the "gouging" landlord. There is evidence that a large proportion of the new owners did buy for this reason. In 1923 and then again as late as 1925, the Special Commission on the Necessaries of Life reported "that nearly all of (the) new construction is being sold to or being built by victims of high rents."[8]

There is little direct information concerning the number of houses, particularly single-family units, that shifted tenure. If the prevailing speculative fever constitutes partial evidence, it was probably high. Frequent references were made to the tactics of speculators who raised rents several times in the course of a few months and then sold the properties on the basis of the high income.[9] Sales of individual units of apartment houses "in increasing numbers" brought demands for legislative investigations and supervision.[10] "One of the favorite devices of the promoter of such a scheme," it was reported "is to force up rents to show a profit upon an inflated valuation, then tenants are ordered to move out or buy their apartments. There are often several mortgages on the property. The equity is split up into shares and each tenant must buy the shares which represent his apartment."[11]

Unfortunately, there are no reliable data to indicate the extent of these practices. Probably the majority of the landlords treated their tenants reasonably, but the small minority who acted otherwise, coerced many to move, to pay extortionate rents or to take refuge in ownership, if possible; and there were many others who were never victims, but who constantly feared that they might be next. Though the temper of the times was clearly set against controls, the consequences of the shortage were serious enough to make the Special Commission on the Necessaries of Life thankful that rent riots and bloodshed did not occur in Boston, as was the case in other cities.[12]

Data on tenure trends in the twenties are available only for Boston city. Census statistics indicate that by the end of the decade ownership in Boston city had jumped from 18.5% to 26.1%.[13] Actually, the figures understate the trends. Since 1926 the effects of inflated valuations and excessive financial commitments had made themselves felt in a much heavier foreclosure rate.[14] The

[7] *Ibid.*, House No. 1210, 1925, p. 37. For further data on the rise of rents and high rent income ratios, see: Bureau of Labor Statistics, "Consumers' Price Index for Moderate Income Families," *op. cit.*; and L. Rodwin, "Income and Costs for Middle Income Housing in Boston: 1846-1947," *Land Economics*, November 1950, p. 368.

[8] *Special Commission on the Necessaries of Life*, House No. 1250, 1923, *op. cit.*, p. 71; and House No. 1210, 1925, *op. cit.*, p. 37.

[9] *Ibid.*, House No. 1500, 1920, pp. 96-97.

[10] *Ibid.*, House No. 1400, 1922, pp 69-70.

[11] *Ibid.*, pp. 64-65.

[12] *Ibid.*, House No. 1210, January 1925, p. 47.

[13] Fifteenth Census of the United States: 1930, *Families*, Vol. 6, p. 57.

[14] J. Lintner, *Mutual Savings Banks in the Savings and Mortgage Markets* (Cambridge: Harvard University, Graduate School of Business Administration, 1948), pp. 270-271 and Chart 38.

speculative apartment house boom later in the decade also obscured somewhat in an over-all average the ownership shift that occurred from 1920-25. And most of the building of new homes occurred in suburban areas. Therefore, the increase in Boston city where multi-family units were generally built further underlined the important change that occurred. The figures are even more interesting if it is remembered that the remodelling and creation of small apartments induced by high rents and sanguine profit expectations might have offset some of the trend toward ownership.

Despite the absence of records indicating the changes that occurred, it is possible and perhaps useful to hazard a rough approximation of the actual tenure shifts. The total increase in ownership between 1920 and 1930 is known. If the number of units which were built for ownership between 1920 and 1930 could be determined, the difference between this figure and the total number of new owners would constitute the number of net transfers from tenancy to ownership.[15]

The proportion of units built for owner occupancy is not available. However, this information can be roughly estimated. Useful benchmark data are the known percentages of owner occupancy of existing housing by type of structure and the maximum owner occupancy percentages that could probably be attained: 100%-owner occupancy is possible for dwelling units in one-family structures, 50% for two-family structures, 33⅓% to 25% for three- and four-family structures, and 20% or less for five- and more family structures.[16] On the other hand, owner occupancy percentages of dwelling units in 1940[17] for one, two, three or four, and five and more family structures were 65%, 28%, 13%, and 2% respectively.[18] The proportion of new units built during the twenties for owner occupancy, as indicated below, will lie somewhere within the range of these two groups of percentages.

To establish reasonable estimates, several factors must be taken into account. First, the percent of owner occupancy in 1940 by type of structure is undoubtedly much lower than the proportion of owner occupancy that prevailed when the structures were built. The 1940 data reflect the impact of the depression as well as the normal changes in tenure such as family dissolution and other factors that occur over a period of time.[19] Second, to avoid overstatement of the number of transfers that occurred, the estimates of the proportion of newly-built, owner-occupied dwelling units should tend to be higher rather than lower. Third, decreasing percentages of owner occupancy can be anticipated for structures providing for a larger number of families. Capital requirements increase for larger structures thus limiting the market; also such properties create possibilities for others to make realty investments. With these considerations in mind, some estimates concerning owner occupancy percentages for the different types of structures may be ventured.

Evidently, an increasing proportion of one-family units is being built for owner occupancy. Ownership for this dwelling type has risen from 35% in 1845 to 65%

[15] A larger number of transfers to ownership probably occur but they are offset by shifts of units from ownership to tenancy.

[16] Higher percentages are possible for two-, three- and four-family units in cases of cooperative ownership. However, two or more family units are so infrequently owned in this manner that the possibility can be ignored in this analysis.

[17] Similar Census data are not available for previous decades.

[18] Sixteenth Census of the United States: 1940, *Housing, General Characteristics*, Vol. II, Part 3, Table 4, pp. 496-7.

[19] For further discussion of these factors, see R. U. Ratcliff, "Notes on the Recent Decline in Home Ownership," *Journal of Land & Public Utility Economics*, November 1944, pp. 373-77.

in 1940.[20] Census data indicate that of the one-family units built between 1930 and 1940, approximately 78% were owned.[21] The typical builders, whether small- or large-scale, depend on quick sales. Nonetheless, some one-family units built are either not sold or held for investment. Hence an estimate of 90% ownership of new one-family units would seem to be reasonable. For two-family structures, an estimate of 35% owner occupancy of dwelling units may be made or, in other words, seven out of every ten two-family structures. Probably not more than 20% of the houses comprising three and four apartments were originally built for owner occupancy. This estimate is equivalent to saying that almost two out of every three of these structures are owner-occupied. Finally, owner occupancy of new five-and-more family units probably does not exceed 4%. This estimate will not seem low if it is remembered that: (a) maintenance by a resident landlord is much less feasible for buildings containing more than six units;[22] (b) approximately 53% of these dwelling units were in structures housing 10 and more families;[23] and therefore the estimate implies that more than four out of ten structures were owner-occupied; (c) the estimated percent of ownership is twice the percent prevailing in 1940.

Table 1 indicates that 39,697 units were built between 1920 and 1930, of which 3,842 were one-family units, 10,558 two-family units, 5,328 three-family units and 19,969 four and more family units. If the estimated percentages are applied to the total units of each type erected during the decade, then the probable maximum total number of dwelling units built for owner occupancy was approximately 9,018. Owner-occupied units, however, increased from 30,132 to 46,014 from 1920 to 1930, or 15,882.[24] The difference between the increase in ownership and the number of units built is 6,864 and represents the increase in ownership attributable to the net shifts in tenure. This shift represents 43% of the total increase in owned units. This proportion is quite large. If the assumptions employed in this analysis are reasonably correct, then the evidence, at least for Boston's experience during the twenties, seems to cast doubt on the hypothesis that

[20] L. Shattuck, *Report to the Committee of the City Council Appointed to Obtain the Census of Boston for the Year 1845* (Boston 1846), Appendix M, pp. 22-23; and Sixteenth Census of the United States: 1940, *Housing, General Characteristics*, Vol. III, Part 3, pp. 446-447.

[21] Sixteenth Census of the United States: 1940, *Housing: Characteristics by Monthly Rent and Value*, Vol. III, Part 2, Table B-4, p. 610.

[22] M. Colean, *American Housing, Problems and Prospects* (New York: Twentieth Century Fund, 1944).

[23] Sixteenth Census of the United States: 1940, *Housing, General Characteristics*, Vol. II, Part 3, pp. 496-7.

[24] Fifteenth Census of the United States: 1930, *Families, op. cit.*, p. 57.

TABLE 1—ESTIMATED NUMBER AND PERCENT OF DWELLING UNITS BUILT FOR OWNERSHIP IN BOSTON BY TYPE OF STRUCTURE: 1920–1929

Type of Structure	Percent of Owner Occupied to Total Occupied Units	Maximum Possible Percent of Dwelling Units Built for Ownership	Estimated Percent of Dwelling Units Built for Ownership	Total Number of Dwelling Units Built 1920-1929	Estimated Number of Dwelling Units Built for Ownership
1-Family.....	64.9	100.0	90.0	3,842	3,458
2-Family.....	28.2	50.0	35.0	10,558	3,695
3-and 4-Family.....	13.4	25.0–33.0	20.0	5,328	1,066
5-and more Family..	2.6	20 or less	4.0	19,969	799
Total.....	....	....	....	39,697	9,018

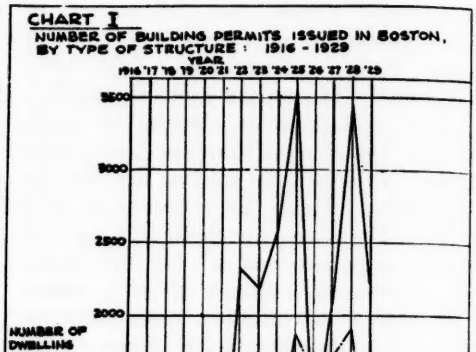
Source: Computed from, *Annual Reports*, Boston Building Department, Commonwealth of Massachusetts, 1920-1992; and Sixteenth Census of the United States; 1940, *Housing, General Characteristics*, Vol. II, Part 3, Table 4, pp. 496-497.

high rents in a free market will significantly curb the pressure toward ownership.[25]

New Construction and Free Markets

Few units were built in the city of Boston in 1918 due to the war. And though rents and sales prices zoomed, only 481 units were built in 1919 and 320 in 1920. Approximately 878 units were built in 1921, which also represented very low construction volume despite the fact that the 1920 record was more than doubled. During this period the pace of all types of construction was sluggish. (See Table 2 and Chart I.)

"Banks and large financial organizations," it was reported, "are not willing to finance large-scale building operations at present costs. Prices have not sufficiently liquidated. Consequently construction has begun on the basis of the construction of one or two family houses which are sold before others are commenced."[26]



[25] Miles Colean's point that transfers of rental housing and particularly of one-family houses to ownership is a result of rent controls loses much of its significance if the same phenomenon would also occur in the absence of rent controls. See M. Colean, "The Rental Housing Mystery," *Architectural Record*, February 1947, pp. 81-85.

[26] *Report of the Special Commission on the Necessaries of Life.* House No. 1250, 1923. *op. cit.*, p. 71.

TABLE 2—NUMBER AND PERCENT OF BUILDING PERMITS, BY TYPE OF STRUCTURE, ISSUED IN BOSTON: 1916-1929

Year	Total Dwelling Units[1]	Dwelling Units in 1-Family Structures		Dwelling Units in 2-Family Structures		Dwelling Units in 3-Family Structures		Dwelling Units in 4 or more Family Structures	
		Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number[2]	Percent of Total
1916.....	3,965	155	3.9	582	14.7	1,509	38.1	1,719	43.3
1917.....	1,293	84	6.5	234	18.1	318	24.6	657	50.8
1918.....	37	15	40.5	16	43.2	6	16.2	0	.0
1919.....	481	74	15.4	76	15.8	52	10.8	279	58.0
1920.....	320	63	19.7	50	15.6	51	15.9	156	48.7
1921.....	878	138	15.7	266	30.3	135	15.4	339	38.6
1922.....	3,434	260	7.6	582	16.9	264	7.7	2,328	67.8
1923.....	3,577	219	6.0	682	19.1	486	13.6	2,190	61.4
1924.....	4,682	306	6.5	1,080	23.1	729	15.6	2,567	54.8
1925.....	7,062	527	7.5	1,876	26.6	1,128	16.0	3,531	50.0
1926.....	3,881	629	16.2	1,598	41.2	588	15.1	1,066	27.4
1927.....	5,416	547	10.5	1,710	31.6	993	18.3	2,166	39.6
1928.....	6,805	648	9.5	1,906	28.0	801	11.8	3,450	50.7
1929.....	3,642	505	13.9	808	22.2	153	4.2	2,176	59.7

1. Approximately 3% to 5% of the permits are not used and must therefore be deducted from the above building permit figures to get an estimate of construction. (Letter from J. H. Mooney of the Boston Building Department to Miss Katherine McNamara, Librarian, Harvard Regional Planning Library, June 30, 1942).
2. This column was computed by subtracting total dwelling units from the totals for 1-, 2- and 3-family units.
Source: Computed from *Annual Reports*, Boston Building Department, Commonwealth of Massachusetts, 1916-1925.

From 1922 through 1924 residential construction rose sharply and steadily. Multi-family construction likewise increased. In the city of Boston it was numerically larger than other types, though percentagewise a steady decline occurred as other types of building, particularly the construction of two-family units, took hold.

During the second half of the decade, construction was high except for a slump first in 1926 and then again in 1929, the latter year marking the decline preceding the depression of the thirties. The building of two-family units proceeded at a firm pace, averaging about 34% of the total for 1925-1929. (Table 3 and Chart II).[27] In Boston city, the number of one-family houses constructed during this period was small, amounting to about 17%. Three-family houses which enjoyed a slight spurt in 1925 averaged generally about 15% of the total volume. Though houses containing five and more families declined approximately 11% during the second half of the decade, these multi-family dwellings still represented the modal unit for Boston city for the entire decade.[28]

[27] If the analysis were based on the records of the Building Department (Table 2), the percentages would be:

No. of Fam. Units.	1920–1924 (Percent)	1925–1929 (Percent)
1-Family	7.6	10.6
2-Family	20.7	29.4
3-Family	12.9	13.7
4-more Family	58.8	46.3

A discrepancy exists between the Census data and the Building Department data. The figures of the Building Department may be inflated because the permit data may exceed the actual number of units built by approximately 3% to 5%. The Census data are based on the number of dwelling units (by year built) which were enumerated in 1940. The Census data may vary from the Building Department data because of demolitions, conversions and also because approximately 26,547 units did not report the year built. Most of the non-reporting units were probably in the older categories, however. In any case, the Census data were used primarily because comparable information was also available for the metropolitan area.

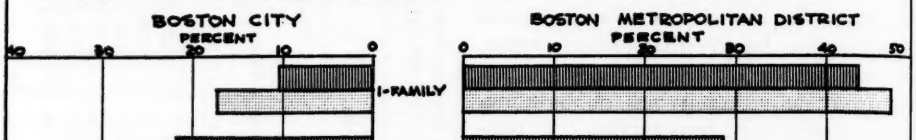
[28] Sixteenth Census of the United States: 1940; *Housing Characteristics by Type of Structure*, (regions, states, cities of 10,000 or more and Principal Metropolitan Districts) Table B-I, p. 160. Note that the number of 4-family units is too small to be of significance.

TABLE 3—NUMBER AND PERCENT OF DWELLING UNITS BY TYPE OF STRUCTURE IN BOSTON CITY AND BOSTON METROPOLITAN DISTRICT BUILT DURING 1920-1924, 1925-1929 AND 1920-1929. *Source:* SIXTEENTH CENSUS OF THE UNITED STATES, 1940: *Housing Characteristics by Type of Structure*, pp. 160-161

Type of Structure	City						Metropolitan District					
	1920–1929		1920–1924		1925–1929		1920–1929		1920–1924		1925–1929	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1-Family	4,020	14.3	1,270	10.5	2,750	17.3	51,013	46.0	19,780	43.6	31,233	47.5
2-Family	8,025	28.5	2,648	21.9	5,377	33.8	32,976	29.7	13,091	28.8	19,885	30.3
3-Family	4,973	17.8	2,637	21.7	2,336	14.8	7,834	7.0	4,394	9.7	3,440	5.2
4-Family	437	1.6	270	2.2	167	1.0	2,166	1.9	1,031	2.3	1,135	1.7
5-9 Family	2,608	9.3	1,070	8.8	1,538	9.6	4,056	3.6	1,604	3.5	2,452	3.7
10-19 Family	3,355	12.0	1,908	15.7	1,447	9.1	4,736	4.3	2,414	5.3	2,322	3.5
20 and More	4,618	16.5	2,329	19.2	2,289	14.4	8,327	7.5	3,105	6.8	5,222	8.0
Total	28,036	100.0	12,132	100.0	15,904	100.0	111,108	100.0	45,419	100.0	65,689	100.0

CHART II

PERCENT OF DWELLING UNITS IN BOSTON CITY AND IN THE BOSTON METROPOLITAN DISTRICT BY TYPE OF STRUCTURE AND YEAR BUILT: 1920 - 1924 AND 1925 - 1929



SOURCE: TABLE 3

For the Boston Metropolitan Area, however, the one-family house was clearly the basic building type during the twenties,[29] averaging at least 44%-48%[30] of the total units erected, (Chart II). Two-family units were second, reaching about 30% of the total construction. Houses with five and more families were third with about 16% of the total. The number and percent of one-family houses built also increased during the second half of the decade; and though the number of houses with two families and with five and more families increased, percentagewise there was a decline.

Several observations are warranted from these data. All building following the war was definitely retarded probably due to the cost maladjustments and uncertainties as well as the dislocation of the industry. When construction did commence, the building of one-family units took priority for the metropolitan area as a whole. Within Boston city, however, the building of single-family units was both tardy and negligible which indicates that the generalization by Naigles that single-family houses was the unchallenged construction type during the twenties requires at least (an important) locational qualification.[31] All types of building including single- and two-family houses as well as multi-family construction reached high levels near the end of the decade. Since prices for all new construction were generally steep,

[29] *Ibid.*, Table C-I, p. 161.

[30] The figures in Table 3 indicate the amount and types of housing in Boston by the year built. Since a considerable number were converted during the thirties, the percent of one-family units indicated in the table understates the number actually built. The proportion of one-family units built in the twenties and still standing is approximately 41%.

[31] M. H. Naigles describing the chief building patterns in the U. S. during this period concluded that "the position of the single-family house as the preferred type of American non-farm home was at no time challenged between 1920 and 1940. It regularly accounted for more than half of the annual construction of new housekeeping units."

"Housing and the Increase in Population," *Monthly Labor Review*, Series No. R 1421, March 1942, p. 6.

only the top income groups or those able to pay rents of $40 a month or more were directly served.[32] The needs of the middle- and lowest-income group were served only by the inadequate filtration process.[33]

On the basis, therefore, of Boston's experience, the claim that absence of controls speeds building programs during the early postwar adjustment period cannot be supported: on the contrary, the evidence indicates that construction was retarded because of cost distortion and maladjustments. Second, even in a period when the illusion of ever rising land value trends was still a strong influence on the incentives for rental housing construction, the absence of controls did not reverse the pressure for one-family houses as the dominant construction type. Third, it is possible that some building, especially high cost construction, may have been stimulated by the free market due to the pressure to leave the older but not necessarily cheaper houses as well as the absence of fears and misapprehensions concerning government policies. This contention cannot be checked.

Efficiency and Economy

There is general acceptance of the fact that the housing market is imperfect and inefficient. In addition, a housing shortage places landlords in a semi-monopolistic position. Economists of all schools of thought are in accord that agreements reached under monopoly tend to result in inefficient distribution and exchange. Such agreements often do not reflect bargaining but the imposition of terms with few real alternatives for the purchaser. Even if the major terms, i.e., the rents, were not subject to change, the tendency is not to achieve maximum mutual satisfaction. It is, for example, painfully evident in time of shortage that many tenants have hesitated to make minor requests or to engage in many innocent activities because of fear of the consequences although a significant expense or burden to the landlord may not have been involved; or if it were, a suitable quid pro quo might have been arranged. Instead, the situation is often frozen and contributes to the possibility of even greater friction and resentment. In a sense, the creation of a tribunal in Massachusetts, such as the Special Commission on the Necessaries of Life, to intervene and help settle amicably, if possible, issues between landlords and tenants involving both monetary and non-monetary questions was a necessary social mechanism. It was evolved to create additional flexibility, as well as to help tackle problems growing out of the absence of such flexibility.[34] Many of the cases it handled illustrate this kind of inefficiency as well as the more explosive situations involving undisguised exploitation.

Though higher prices reduced demand and thus provided for more "economical" use, it is important to note that even in the twenties the severity of the housing shortage was attributed to "extravagant" living and the demand for "modern improvements."[35] Many officials hoped that the depression of 1921 would ease the problem somewhat. Vacancies and lower rents did in fact occur—but in high rent apartments; the crisis was intensified, however, for the low- and middle-income groups. Even more families were forced to search and bid for the

[32] *Report of the Special Commission on the Necessaries of Life*, House N. 1210, 1925, *op. cit.*, p. 37.

[33] M. Colean, *American Housing*, *op. cit.*, p. 183, R. U. Ratcliff, "Filtering Down," *Journal of Land & Public Utility Economics*, November 1945.

[34] *Report of the Special Commission on the Necessaries of Life*, House No. 1210, 1925, *op. cit.*, p 35-37.

[35] *Report of the Special Commission on the Necessaries of Life*, House No. 1500, 1920, *op. cit.*, pp. 34-37.

less expensive apartments.[36] Old firetraps and slums which had partially emptied for the first time during the war years were filled once again, and often "no improvements were made,—the rent (being) largely determined by the amount that the tenant who was unable to bargain or move [could] be forced to pay."[37]

Despite the "economical" use of space, evidence of serious shortage was still present in 1925, according to the last report of the Special Commission on the Necessaries of Life. Many complaints were still being made concerning excessive increases of rent, "vacate" notices followed by increases of rent and inability of tenants to move, "colonization" of families, objections to children, and the inability of the head of the family to earn enough to meet high rental demands and maintain the customary standard of living.[38] In many cases, the high rents served less to reduce the space used and more to line the pockets of speculators interested in bolstering inflated sales prices with jacked-up rents. Not space, but various budget expenditures were often reduced. The Special Commission on the Necessaries of Life observed that many families were paying more than 25% of their income for shelter, some paying "as high as 40% . . . . while few are paying less than 25%." [39]

Several reservations, therefore, must be raised on the basis of Boston's experience concerning the view that space will be apportioned efficiently and economically through the relatively automatic and impersonal price mechanism. The evidence indicates that even with an uncontrolled price mechanism, grave symptoms of shortage will persist for many years.[40] Discrimination against groups deemed less desirable by the landlord occurred in Boston's free market precisely because many families needed accommodations. To a large extent, the situation degenerated into a freezing of space but a loss of tenant income. Moreover, it is not altogether certain whether sheer economy of space is desirable for all groups, an end which those resorting to price analysis alone appear to take for granted. Overcrowded conditions, resuscitation of the worst slums, lowering of real income for all groups, especially those in the low- and middle-income category, all of which occurred in Boston, may be an unreasonable price to pay for this "economy."

Finally, in a situation largely brought about by a common national emergency it may well be asked whether the solution to this problem should not require relatively fair sacrifices on the part of all groups. Boston's experience indicates that higher income groups received the first relief from new building and the first relief in the form of vacancies and rent reductions when deflationary trends developed. The position of the lower- and middle-income groups worsened because of reduced income and an intensi-

[36] *Report of the Special Commission on the Necessaries of Life*, House, No. 1250, 1923, op. cit. The Commission observed that these groups have "suffered most severely . . . . When living conditions were rapidly rising because of the high wages they were the center of most of the trouble. In many cases their income did not increase in the same proportion as those who had formerly lived in less desirable quarters. Now when the readjustment is downward, the most trouble again is in this class of apartments as many of those who formerly lived in the high price type of apartment with special services are obliged to get something at a lower price." p. 73.

[37] *Report of the Special Commission on the Necessaries of Life.* House No. 1210, 1925, *op. cit.*, p. 36.

[38] *Ibid.*, p. 34. Mayor Curley indicated in his "Annual Address to the City Council" on Feb. 1924 that "many apartment blocks are being erected but nothing is being done to meet the needs of those with children." *Boston Year Book*, City of Boston Printing Department, 1924, p. 51.

[39] *Report of the Special Commission on the Necessaries of Life*, House No. 1210, 1925, *op. cit.*, p. 36. cf. footnote 7.

[40] For the contrary point of view, see: M. Friedman & G. J. Stigler, *Roofs or Ceilings* (Irvington-on-Hudson, New York: The Foundation for Economic Education, Inc.), pp. 1-3.

fied shortage during the depression. The over-all trends evidenced a decline of housing standards for many and the redistribution of income largely from lower- and middle-income groups to their landlords.[41] Space economies were effected primarily by tenants, rather than owners; and it is doubtful whether the space became available to those who needed it most. As a last irony, there is even some evidence to question whether a significant amount of additional space was made available as a result of reliance on the uncontrolled price mechanism.

[41] Many of the landlords may also have been members of the middle-income group.

The Life Cycle of the Home Owners' Loan Corporation

By ROSALIND TOUGH*

GENERALLY, social experiments are justified, if at all, in terms of the contributions they make to social welfare. However, the fact that they will involve relatively large governmental expenditures is usually taken for granted. Thus a social experiment which apparently has paid its way and has terminated its activities with a surplus is sufficiently unique to constitute news. Such is the story of the Home Owners' Loan Corporation, which was summarized as follows:

"The H.O.L.C. has now closed its books, locked its doors and gone out of business as a lending mortgage holding agency of the government. This was reported to the Home Loan Bank Board today following delivery of an H.O.L.C. check for nearly $14,000,000 of surplus to the United States Treasury, representing the financial results of the Corporation's 3½ billion dollars rescue task of the depression years."[1]

To the average young citizen the Home Owners' Loan Corporation is just another government agency which, for some reason or other, has brought its activities to a close. To the older reader, who was a homeowner in the depression years of the thirties, it was the agency which saved his home from mortgage foreclosure. To the social scientist, it represented an experiment in cooperation between government and private enterprise in the field of home financing.

The era of the economic depression has been followed by World War II and the postwar era. The life of the Home Owners' Loan Corporation (hereafter referred to as the H.O.L.C.) has extended throughout these periods, from 1933 to 1951, a span of eighteen years.

Theoretically, the life of any experiment should end with the culmination of the need; government social experiments, however, have often appeared to extend for many years beyond the period of the emergency which brought them into existence.

Since the H.O.L.C. may be considered to be a social experiment in the sense that it represented new governmental machinery evolved to meet the housing emergency in the depression years and since this experiment has just been terminated, there are a number of questions concerning its effectiveness that are of interest not only to the social scientist but to the taxpayer as well. Looking backward, what can be said to be the type of emergency that the H.O.L.C. was created to meet? At the time that the organization came into existence, what was the underlying philosophy that was responsible for the type and functions of the H.O.L.C.? To what extent did the Corporation receive governmental subsidy? Lastly, why was the life of the organization prolonged beyond the emergency period? After these questions have been answered, a glance at the future would seem pertinent: Should some future comparable emergency arise in the housing field, should the H.O.L.C. experiment be duplicated?

The Housing Emergency of 1933

Much has been written about the depression years of the thirties. During that period, social experiments blossomed like dandelions. Some of these

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[1] Adolph J. Sabath, "Statement relative to the record and passing of the H.O.L.C.," Congressional Record, May 25, 1951, p. 6041; *The New York Times*, May 29, p. 35:6.

were short-lived and faded into obscurity; others have become part of the permanent social structure; and still others, such as the H.O.L.C., functioned for a period of time and then terminated their activities.

Social need has been the catalytic agent in motivating these social experiments. In 1933, for example, in the nonfarm communities in the United States, homes were foreclosed at the rate of about 1,000 a day; the average borrower was delinquent two years on his mortgage and about three years in arrears on taxes.[2]

Financial institutions dealing with mortgages were incapable of stemming the tide of foreclosures and were finding their function changing from home lenders to home owners with the concomitant situation of frozen assets. The resulting emergency existed; some solution had to be found.

Social Philosophy and Congress

Although social need has activated governmental social experiments, the particular forms adopted have depended on the fundamental social philosophy in existence. Basically, the philosophy of Congress in 1951 is that which has permeated much of the relationship between government and private enterprise in the field of housing. Government will cooperate with private initiative when the latter is unable to do the job alone. This is an attempt to avert the dichotomy between the interests of private enterprise on the one hand and government on the other.

However, in 1933 the experience of the financial institutions with housing mortgages during the depression years had made it evident that not only government cooperation but government enterprise was essential. Such government enterprise was in harmony with the philosophy of the "New Deal" under the Roosevelt Administration. The H.O.L.C. Act of 1933 was the answer.[3]

Organization of the H.O.L.C.

The Act of 1933 brought into existence the H.O.L.C., an instrumentality of the United States, under the direction of the Home Loan Bank Board. Capital stock to the extent of $200,000,000 was subscribed by the United States Government;[4] actually these funds, allocated by the Reconstruction Finance Corporation, were in the form of a non-interest-bearing loan. Recently, with the culmination of activities of the H.O.L.C. this original $200,000,000 was returned to the Treasury of the United States. Additional funds were obtained from the sale of bonds. A bond issue, not to exceed $4,750,000,000, was authorized to the H.O.L.C.—with a life of eighteen years and an interest rate not to exceed four per cent.[5] Attractive features of these bonds were: exemption from taxation (except surtaxes, estate, inheritance and gift taxes) both as to principal and interest; a guarantee by the United States Government as to payment of both principal and interest; and the fact that they were made lawful investments for fiduciary, trust and public funds. At the close of its activities, the H.O.L.C. had $3,500,000,000 of these bonds outstanding which were fully paid off.

The Banks and the Home Owners

What actually happened, between 1933 and 1936—the emergency period during which the H.O.L.C. extended loans—was that the new organization bailed out not only the home owners of the United States but also the banking

[2] Sabath, *op. cit.*, p. 6042.

[3] Home Owners' Loan Act of 1933, June 13, 1933, Ch. 64, 48 Stat. 128.

[4] U.S.C., 1946 Ed. Vol. 1 Title 12, par. 1463 (b) Wash. 1947.

[5] *Ibid.*, par. 1463 (c).

institutions. In addition, the Corporation disbursed funds to local cities and towns in payment of delinquent taxes incurred by its borrowers and taxes on the properties which it had acquired.

Refinancing was done primarily in terms of exchanging H.O.L.C. bonds for the mortgages on homes which were held by private financial institutions. The Corporation canceled the latter and issued H.O.L.C. mortgages at 5 percent interest (later reduced to 4½ percent), which were to be amortized over a period of years by the home owner. Since the purpose was to service the small home owner, a maximum amount for an individual advance was stipulated in the Act. Such an advance could not exceed $14,000 or 80 percent of the value of the real estate, as determined by an appraisal made by the Corporation.[6] The above amounts included, in addition to the refinancing of the mortgages, unpaid taxes on real estate, unpaid interest on the mortgages to a limited extent, essential repairs on the houses involved, and incidental expenses.

The implications of this type of financing to the home owner, to the financial institutions involved and to the communities in which the homes were located were several. In the first place, appraisal of the property was made in terms of 1933-36 values which were considerably lower than those generally prevailing in the earlier years when the loans had been made initially. The government justified this lower appraisal on the basis that the price level had changed in the depression years and that, although the dollar valuation of the real estate was lower during the depression years, it represented the equivalent in purchasing power.

In the second place, the H.O.L.C. advances, including payments for unpaid interest, unpaid taxes, necessary maintenance of properties, etc., were often insufficient to refinance the original mortgage loan in full. In terms of the financial institutions involved, this meant that they accepted government bonds which were often of lesser value in dollars than the mortgages for which they were exchanged. The tax exemption features of these securities, however, and the United States Government guarantee as to principal and interest made them attractive to the banks during the depression years. In turn, the refinanced H.O.L.C. mortgage was attractive to the home owner; it was generally of lesser amount than the original mortgage and carried a lower interest rate. Furthermore, all obligations on the property, the unpaid taxes, special assessments, interest, etc. had been cleared up in the refinancing transaction. This amounted then to a new start for the home owner. From the viewpoint of the communities in which the properties existed, taxes which had become delinquent were paid and property values were preserved through adequate maintenance.[7]

The Extent of the Aid

Just how widespread the H.O.L.C. assistance was becomes apparent when it is recognized that the organization refinanced homes in each of the forty-eight states and in addition in the District of Columbia, Puerto Rico and Hawaii. In Puerto Rico and Hawaii, the loans were few in number in terms of the total granted by the H.O.L.C. This was also true in such states as Nevada, Delaware, New Hampshire and Vermont. In contrast, H.O.L.C. loans were concentrated

[6] *Ibid.*, par. 1463 (d).

[7] "About 2¾ billion passed on to the banks, savings and loan associations and insurance companies, thus saving many from collapse. To protect its investment in many homes, H.O.L.C. had to pay off old liens, keep properties from running down. Thus 487 million of the total loaned went to hard-pressed local governments as payment for delinquent taxes. H.O.L.C. paid another $203 million to cover necessary repairs to 500,000 homes—$18 million for fire insurance." *Business Week*, September 24, 1949, p. 89.

in such states as Illinois, Michigan, New York and Ohio. Here it is quite evident that the size of the area involved, the density of the population, and the number of small home owners in need of financial assistance were contributing factors. In all, a total of 1,017,821 original loans were made by the H.O.L.C. (Table I)

Not all of the above loans, however, were successful, actually only about four-fifths of the total (823,687 loans.) The remaining one-fifth (194,134 loans) were foreclosed by the organization and the homes, although often temporarily rented, were eventually re-sold.

The comparison by states of the ratio of homes saved for owners shows marked contrasts. In states like New York and Massachusetts, H.O.L.C. refinancing enabled less than three-fifths of the owners involved to meet their obligations and thus to save their homes; in contrast, in Michigan, Montana, New Mexico, Delaware, Georgia, Oregon, West Virginia, Wyoming and Puerto Rico about 90 percent of the owners made the grade. (Table I) The H.O.L.C. explains the difference in these percentages as due to such factors as regional variations in the duration and severity of the depression, the level of real estate prices, the ratio of mortgage debt to value prior to 1933 and the rate of taxation on real estate.[8]

In all of the homes refinanced by the H.O.L.C. there was one element in common. Each home was a poor risk; each mortgage was one that, had the refinancing not occurred, would have been foreclosed by the mortgagee. It was therefore to be expected that some of the home owners would be eventually unable to meet their obligations, even after these obligations had been written down by the government. Under such circumstances, it is significant that the H.O.L.C. foreclosures were only one-fifth of the total loans made.

[8] Adolph J. Sabath, *op. cit.*, p. 6042.

End of the Experiment

Although the refinancing activities of the H.O.L.C. extended for a period of only three years, the life of the organization was not terminated until a period of about eighteen years had elapsed. During these years, the organization coped with the problems of obtaining income from the amortized loans which it had made, meeting the interest payments on its bonded indebtedness, managing real estate which it had acquired as a result of foreclosure proceedings and the reselling of these properties.

A policy followed by the Corporation throughout was to encourage its borrowers to pay off their loans in full before maturity dates. So successful was this program, particularly during the war and postwar periods, that in some states the H.O.L.C. portfolio was reduced to the point where the cost of servicing was uneconomical. Thus by March of 1948 a speed-up program was launched in states having small loan balances.[9] Borrowers were requested to pay off their balances in full or to refinance them with local institutions, a program which was followed in at least twenty states.[10]

The Home Loan Bank Board, serving as the board of directors of the H.O.L.C., consulted with the House and Senate Independent Offices Appropriations Subcommittee regarding the complete liquidation of the Corporation's outstanding mortgages. The decision was reached to sell or assign all mortgages by publicly offering them for sale on a state-wide basis.

[9] "Theoretically from 1936, the H.O.L.C. was to have contracted slowly, as loans were paid off. With the maximum length of the loan figured at 25 years, it would be due for extinction in 1961." *Newsweek*, September 12, 1949, p. 64.

[10] *Third Annual Report, Housing and Home Finance Agency Calendar Year 1949*, U. S. Gov. Printing Office, Wash. 1950, p. 140.

TABLE I—H.O.L.C. LENDING RECORD BY STATES*

	(1) No. of Original Loans	(2) Total H.O.L.C. Investment	(3) Foreclosures on Original Loans	(4) Ratio of Homes Saved for Owners (per cent)
United States	1,017,821	$3,498,900,627	194,134	80.9
Alabama	16,611	41,277,266	3,062	81.6
Arizona	6,508	17,688,080	915	85.9
Arkansas	10,344	20,974,182	1,661	83.9
California	51,554	148,503,816	5,492	89.3
Colorado	11,613	24,978,261	1,232	89.4
Delaware	1,642	5,484,403	230	86.0
Florida	13,524	23,335,588	1,317	90.3
Georgia	14,850	36,697,570	1,775	88.0
Idaho	4,692	8,900,578	415	91.2
Illinois	69,985	305,150,768	9,057	87.1
Indiana	48,815	120,131,166	6,566	86.5
Iowa	19,633	42,402,820	2,804	85.3
Kansas	18,504	40,176,608	5,776	68.8
Kentucky	9,234	27,896,022	1,524	83.5
Louisiana	14,379	43,855,152	2,352	83.6
Maine	3,398	8,666,381	656	80.7
Maryland	15,928	54,134,235	3,459	78.3
Massachusetts	24,524	133,159,428	10,132	58.7
Michigan	81,126	258,759,224	7,147	91.2
Minnesota	21,021	52,676,327	2,765	86.8
Mississippi	8,762	18,715,978	1,313	85.0
Missouri	24,535	84,331,997	6,713	72.6
Montana	3,679	7,908,956	339	90.8
Nebraska	13,597	32,945,326	3,974	70.8
Nevada	1,211	3,424,492	53	95.6
New Hampshire	1,867	5,253,335	406	78.3
New Jersey	36,339	213,076,804	13,956	61.6
New Mexico	2,462	5,508,201	188	92.4
New York	80,115	512,015,681	34,399	57.1
North Carolina	12,319	34,681,245	1,607	87.0
North Dakota	4,416	10,973,118	1,208	72.6
Ohio	98,556	324,534,533	12,408	87.4
Oklahoma	23,960	61,809,687	6,050	74.7
Oregon	9,416	20,138,462	916	90.3
Pennsylvania	58,793	189,085,600	10,514	82.1
Rhode Island	6,118	27,441,195	1,445	76.4
South Carolina	5,683	14,498,084	627	89.0
South Dakota	6,122	12,778,520	1,859	69.6
Tennessee	13,761	34,900,680	2,203	84.0
Texas	44,355	113,373,646	7,950	82.1
Utah	10,749	27,152,534	1,595	85.2
Vermont	1,576	4,805,882	382	75.8
Virginia	12,031	40,987,709	2,053	82.9
Washington	21,448	42,645,623	2,614	87.8
West Virginia	9,079	23,966,152	759	91.6
Wisconsin	33,101	132,039,240	7,415	77.6
Wyoming	2,446	5,708,063	129	94.7
District of Columbia	2,087	12,808,709	232	88.9
Puerto Rico	951	1,888,397	11	98.1
Hawaii	481	1,296,355	.....	....

* Adolph J. Sabath, "Statement relative to the record and passing of the H.O.L.C.," *Congressional Record*, May 28, 1951, p. 6042.

Completion of the work of the H.O.L.C. was to be effected by June 30, 1951. Following the procedure outlined above, the H.O.L.C. portfolio of New York State, consisting of 40,000 loans with an unpaid balance of $102,000,000, was publicly offered for sale.[11] This was followed by the sale of the portfolios of other states.[12]

Today it is profitable for private financial institutions to take over these loans. A change in the price level and the corresponding change in property values made the government-refinanced loan of the thirties an acceptable investment for the commercial financial enterprises in the housing field in 1951. This was evidenced by the fact that the 180 purchasers of the H.O.L.C. portfolios included mutual savings banks, commercial banks, trust companies and saving and loan associations; these institutions bought the mortgages paying par and accrued interest plus premiums of up to 2.5 percent of balances.[13] By May of 1951 the liquidation of the various state portfolios was effected and the H.O.L.C. had terminated its existence.

The H.O.L.C. and Government Subsidy

Newspaper evaluation of the H.O.L.C. experiment has been largely in terms of what constitutes "news"—the fact that one of the governmental enterprises has paid its way, redeemed its obligations to the government and concluded its activities with a surplus. Actually, the $14,000,000 surplus which was returned to the United States Treasury could not have existed except for two types of governmental subsidies from which the Corporation benefited.

One of these was the governmental grant of funds without interest. The $200,000,000 grant from the United States government (given by the government in exchange for capital stock) upon which the Corporation paid no return over a period of approximately eighteen years, represented a subsidy of no small amount. At an interest rate as low as three percent, without compounding the interest, the sum would have amounted to $6,000,000 a year, or in 18 years, the tidy amount of $108,000,000, more than half of the initial grant or about seven times the so-called Corporation surplus.

The other subsidy was the guarantee by the government of the H.O.L.C. bonds. This guarantee enabled the bonds to be marketed at relatively low interest rates. Furthermore, the governmental guarantee made the bonds acceptable to financial institutions, so that they were willing to take these bonds in payment for mortgages which were written down in value, in harmony with the reduced price level.

What is unique about the activities of the H.O.L.C. is that even with both of these types of subsidies, the corporation was able to pay all of its obligations, including its bond issue and original loan from the government, and still have something left. Certainly this was not the experience that had been foretold for the organization; instead the government had been portrayed as the Atlas in the housing field supporting the whole superstructure of housing finance, with an increasing burden to be coped with as the years progressed. It was feared that the H.O.L.C. venture might bring losses up to a half billion dollars to the government. From time to time, largely with the objective of ameliorating the expected losses, bills were introduced into Congress which would have forced the Corporation to auction off all its mortgages. It has been pointed out recently that liquidation

[11] *Ibid.*, p. 140.
[12] *Ibid.*, p. 141.
[13] *Ibid.*, p. 141.

of the H.O.L.C. in these earlier years would have been most unfortunate; it is probable that the good mortgages would have been bought by private financial institutions and the bad ones would have been left, constituting a loss to the government and taxpayer.[14] Postponement of the liquidation of the H.O.L.C. until 1951 enabled the corporation to dispose of its mortgages not only at par but often at premiums, thus entirely disproving the gloomy forecast, made in the earlier years of the organization's existence.

The Experiment, A Fait Accompli

Factors which have contributed to the financial success of the H.O.L.C. have been outlined by Mr. William K. Divers, Chairman of the Home Loan Bank Board and of its subsidiary, the H.O.L.C.[15] He stressed the lenient policy of the corporation toward delinquent property owners. When foreclosures by the corporation did take place, they were chiefly due to non-cooperation of the borrower, refusal to pay, total inability to carry the debt or abandonment of the property.

Various reports of the activities of the H.O.L.C. including Mr. Diver's report have stressed the loan servicing activities of the Corporation. In every case where a home owner became delinquent in his payments, he received letters and often a series of interviews by trained field representatives for the purpose of arriving at some solution consistent with his needs.[16]

Evidence of the lenient character of the H.O.L.C. in its role of mortgagee was presented in a special act of Congress in 1939 which extended the terms of the loan for ten additional years, making it possible for the borrower to pay back his loan over a 25-year period instead of the original 15-year period.[17] About 250,000 borrowers took advantage of this, or approximately one-fourth of the total. Despite the fact that all the borrowers were delinquent in their payments when the extensions were granted, by December 31, 1949 the corporation could report that 96.4 percent of the outstanding extended original loans were paid on schedule or were less than three months in arrears.[18]

Factors over which the H.O.L.C. has had no control but which nevertheless have been of significance in the success of the organization embrace the general upswing in economic conditions. A second World War and postwar period with the creation of a housing emergency has made housing of all types relatively valuable. This coupled with the general rise in the wage level and the general availability of jobs has made it easier for home owners to meet their obligations. Further, the general decline over the years in the cost of money has enabled the H.O.L.C. to market its issues of bonds at rates substantially below the interest earned on its loans.[19]

Actually, the most important question to be answered at the conclusion of any successful experiment is—to what extent could it be repeated? Should a comparable housing emergency exist in the future, would the government be justified in undertaking a similar refinancing job on a wholesale scale? Unfortunately, in the field of social experiment the "yes" or "no" answer is not possible.

It is true that in the future a comparable or even greater housing emergency may occur. It is true further that

[14] *The New York Times*, May 29, 1951, p. 35:6; the bills introduced into Congress were as follows: H.R. 1283, January 19, 1943 (Everett M. Dirksen, Republican, Illinois); S. 1696, February 4, 1944 (Harry F. Byrd, Democrat, Virginia); H.R. 4149, Feb. 8, 1944 (E. M. Dirksen). Each of the above bills was killed in Congressional Committee.

[15] Adolph J. Sabath, *op. cit.*, p. 6042.

[16] *U. S. Government Manual*, Spring 1942, U. S. Information Service, Washington, D. C. 1942, p. 378.

[17] 53 Stat. 76 Cong., 1st Sess. Ch. 684 August 11, 1939.

[18] Sabath, *op. cit.*, p. 6042.

[19] *Ibid.*, p. 6042.

it might be possible to carry over if not much at least some of the experience gained from the H.O.L.C. refinancing program, into a new organization of similar type. But it is quite impossible to foretell what future general economic and social conditions may exist. To what extent might there be a rising or a declining price level; to what extent might population be increasing, decreasing, or remaining relatively static? To what extent might the purchasing power of the population improve (as happened in the case of the H.O.L.C.) during the life of the new organization? None of these questions can be answered now.

What can be said, however, is that the H.O.L.C. was a success, measured in both financial and social terms. The glum forebodings of great cost to the government did not materialize. Instead, with the aid of relatively small governmental subsidies, the corporation met its obligations both to the government and its bondholders, in addition to paying its operating expenses, and terminated its existence with a surplus.

It can be further pointed out that more than one million home owners, each on the verge of losing his home through foreclosure proceedings, were serviced in a three-year-depression period and that four-fifths of these borrowers, because of H.O.L.C. assistance, were able to save their homes. Surely this represents a real contribution made by the corporation towards social stability.

In terms of basic housing philosophy, the government stepped in when private investment organizations were unable to do the job; again, in line with current Congressional philosophy concerning housing, government has stepped out when it became perfectly apparent in 1951 that private enterprise can now take over.

In the future, it may never be necessary for a comparable experiment to be undertaken. But again, history has a way of repeating itself. If so, perhaps Congress might well be justified in feeling that a second H.O.L.C. might play a significant role, should a future planned program of widespread refinancing for housing prove to be essential.

Levels and Flexibility of Rent and Agricultural Efficiency

By EARL O. HEADY*

FREQUENTLY in the United States, and commonly in other nations, the level of agricultural rents is questioned from the standpoint of "fair treatment" of the tenant. At one extreme, systems of so-called "land reform" have evolved in European and Asiatic nations.[1] Some of these reforms involve the transfer of wealth (ownership of land) from landlords to tenants. Other "reforms" simply transfer income from the landlord to the tenant.[2] The latter is accomplished by changes in levels of rents in directions which favor the tenant. These flat or low-rent "reforms" are aimed especially at large land owners and peasant-type tenants. Clearly the objective is one of redistributing the total income (forthcoming from the aggregate of resources owned by the landlord and tenant) in a manner to return more to the tenant and less to the landlord.

Some individuals in the United States have also suggested that rent payments be varied from those established in the market.[3] While less extreme than other "land reforms," the objective of these proposals is the same. Under lower rents the tenant would receive a larger portion of the total product. A parallel proposal is that redistributions of tenant and landlord shares be made in areas of variable returns in order to lessen the income hardships which fall on the tenant operator. While suggestions for alterations in rents along these lines most often relate to agricultural areas where incomes are low, or highly variable, resistances and objections to the level of rents are often expressed in other farming areas. Frequently any attempt of the landlord to "break away from custom" and increase rents is frowned upon (by economists as well as tenants).

Literature on the subject of rental "reforms" has not recognized all of the economic facets of the problem. What is generally overlooked is the dual role of agricultural rents. As a price for the services of land as one factor of production, rent performs two functions in a price economy: (1) It acts as an allocator of resources between different alternatives in production. (2) It acts as an allocator of income between different individuals. While these two goals (efficient allocation of resources and an "equitable" distribution of income) need not be conflicting in terms of the total of means available in the economy (the sacrifices in "equity" of income distribution can be offset by progressive taxation or other means with rents used for allocative purposes), they are often in conflict when the price for either a factor or a commodity is manipulated in a manner which favors one as compared to the other function. The purpose of this

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[1] We place the term "reform" in quotation marks for this reason: the dictionary definition and popular use of the term "reform" refers to "improvement, making better or returning to a previous good state." In an economic context, alterations made in rental terms or resource ownership may represent "improvement" in respect to certain income distribution problems (although there are particular instances here where the readjustments are not "reforms" in the sense of improving the total utility position of two persons). On the other hand the so-called "reforms" may represent a "worsening" of the situation in terms of other economic criteria (particularly the long-run efficiency in resource allocation). Thus the word "reform" can be greatly misleading. We raise some of these points in respect to rent "reforms." We are not concerned with ownership "reforms."

[2] For further details see Ackerman and Harris, Editors, *Family Farm Policy* (Chicago: University of Chicago Press, 1946), pp. 309-385.

[3] Cf., R. Schickele, "Efficiency in Renting Systems," *Journal of Farm Economics*, November 1943.

paper is to examine some of the proposals in respect to rent "reforms." We are concerned not only with those which involve outright income transfers but also those less extreme redistribution proposals concerning variability of landlord and tenant returns. (Changes in the distribution of the total product over time to either a tenant or landlord is simply one facet of the distribution problem.)

Role of Factor Returns

In a perfect market the price for any factor of production (wage to labor, rent to land, interest on capital) would approximate the marginal value productivity of the particular resource. To the extent that prices for products and prices for factors accurately reflect consumer values and factor productivity respectively, competitive market rents then provide a basis for the most efficient allocation of resources (with the distribution of income given). A total product (whether in physical terms, monetary units expressive of consumer values or social welfare) can always be maximized when resources are arranged, given the appropriate choice indicator, in a manner consistent with their marginal product. Thus any attempt to lower rents below their competitive market rate can increase efficiency only if rents have, for some reason, been greater than a level expressive of the marginal value productivity of the land, buildings, and other real estate in question. Attempts to lower rents below the marginal value product of the resources in question may bring about inefficiency in this manner: if the marginal productivity of resources furnished by tenants is low compared to alternative uses, income to tenants as factor owners will also be low (relative to alternative employment or use of tenant resources). Thus if tenants were to transfer elsewhere and sell the services of their labor or capital to producers of other industries (or employ them in production of alternative or non-farm products) the total value of product available to society might be increased. Eventually the pull of income forces may draw these individuals from agriculture (to other lines of activity where factor productivity and hence family incomes are greater.)

A sufficient reduction in rents (rent "reforms") will, however, divert part of the marginal product of land (or other landlord-owned resources) away from the landlord to the tenant. Thus the tenant's total income (marginal value product of his own resources plus the share of marginal value product from land diverted from the landlord) may be raised to a level where his "reservation price" (level of income which he is willing to accept) for staying in agriculture is met and he will be unwilling to move his resources into alternative employments where their actual productivity is greater. It should be emphasized that rents of the market do not always coincide with resource productivity. Discounts due to uncertainty, lack of knowledge, and imperfect market institutions stand to cause rents to deviate from the marginal product of land and hence to serve imperfectly as an allocative mechanism. There is basis here for bringing about changes in rents to increase their effectiveness in the producing economy. Our main concern, however, is with a more complete analysis of rental reforms. We attempt to analyze the instances in which the common reform proposal—a shift in income from the landlord to the tenant—may lessen the magnitude of the economic product forthcoming from agriculture and industry in combination.

Rent Flexibility

The same logic outlined previously also applies to flexibility in rents. The English tenure system wherein cash rents have been maintained at low levels even over several decades without variation is often cited as a "renting ideal." This system not only may result in a redistribution of income but also the inflexibility feature per se can serve as a negative rather than a positive attribute. To the extent that the marginal value product of land rises over time, flexible rents would maintain factor returns in line with productivity of either tenant or landlord resources. Inflexible rents would result in returns to tenants beyond the productivity of their resources as the marginal product of land increases. Thus the surplus of "tenant returns" may result in the use of too many "tenant resources" in agriculture. A decline in land productivity accompanied by inflexible rents would have the opposite effect. Again, the result may be that tenants who would otherwise transfer labor and capital to other industries will content themselves to remain in agriculture.

Similarly, the inflexibility of share rents in the United States may be accompanied by inefficiency. While the product and income forthcoming under share leases changes with price levels and techniques of production, the relative shares to the various factors of production remains constant over long time periods. Share rents in some sections of Iowa have included two-fifths of the small grain and one-half the corn over a period as long as thirty years. Under the tremendous strides in techniques it is hardly likely (though not impossible) that these shares cannot equally express the marginal product of landlord resources in both 1920 and 1952. The complex of improved techniques and changes in relative demands and prices may either increase or decrease the value product of a particular factor. Inflexibility of rents may have certain positive attributes (in reducing uncertainty) but cannot be looked upon as a "leasing ideal" from the standpoint of efficient allocation of resources.

Other Means of Income Transfer

True, incomes of many tenants may be so low as to be inconsistent with maximization of national welfare. Yet if acceptable in the value framework of society, other means exist for remedying the income problem and for increasing total welfare. Mere lowering of rents does not remove the basic cause (low resource productivity and insufficient quantities of resources) of low incomes. A positive approach might well include programs which increase the mobility of tenant resources and aid in shifting labor and capital to more productive employments. Included here are opportunities to (1) provide better information on employment and living conditions elsewhere, (2) subsidize transfer of resources, and (3) invest in the human factor to the extent of providing training for other employment or types of production. Then, too, direct income transfers can be made in other manners. Alternatives include progressive income taxes to all members of society and the provision of direct services and subsidies to low-income families including tenants.

Landlord and Tenant Uncertainty

Crop failure and uncertainty is another reason sometimes given as a basis for lowering rents below the competitive level of the market. These proposals refer particularly to arid farming regions. A tenant on a Great Plains wheat farm may have an outlay of $2000 to $4000 (for capital and labor services which he alone generally provides). The

landlord may have an annual outlay of only $200 to $400 (for taxes and upkeep of buildings). Under the frequent crop failures associated with this type of farming, the cash outlays and reductions in income for the tenant are much greater than for the landlord.

Even in the face of greater annual outlays by the tenant, it cannot be said that crop failure places a greater burden on every individual tenant than every individual landlord. The same variation in income may impinge equally on the landlord who does not have outside sources of income and who depends on the farm for a livelihood. Finally, the same form and degree of uncertainty faces the owner-operator; he must stand the costs associated with land and real estate as well as the annual outlay for services of labor and capital in other forms. While lower share rental rates would lessen the squeeze on tenant farmers in areas of high yield risks, there appears to be little reason why this group of operators should be singled out for particular treatment of a phenomenon which touches all farm operators alike. The renting system per se is not the basic problem. Adjustment in rental rate alone is not the appropriate solution to income and efficiency questions which stem from weather variability. Storage programs, crop insurance, sufficient cash reserves or appropriate credit facilities and perhaps commodity pricing policies are means by which owners and tenants alike can be given greater income stability. To the extent that increased stability reduces the possibility of insolvency and a loss of the owner's assets, a more efficient deployment of resources may be realized. Farm operators may be willing to use capital and credit in a manner to extend scale of operations to a more efficient level. Or factor combinations which are more efficient in the long run (in terms of cost relatives) may be realized; rather than use more labor and less machinery with high fixed costs (in order that the variable costs associated with labor can be curtailed with unfavorable yields and income), the operator may be able to stand greater levels of mechanization and fixed costs under a more stable inter-year distribution of income.

Sharing Alternatives

In the absence of general programs and policies to treat income and resource problems (whether applied to tenant or owner-operated farm) growing out of weather variability, arrangements can be made within the framework of share-leasing systems (the predominant form of rental contract in high-risk areas). One sometimes suggested is that the tenant product be established at some minimum level below which it would not fall (if the total product is great enough) even in years of low crop yields. For example, this minimum might include 1500 bushels of wheat on a farm which would average a production of 2660 bushels over time.

Again it is true, however, that if the one-third and two-third shares (or one-fourth and three-fourths as the case may be) approximate the average marginal product of land (and other resources) over time, then a minimum tenant product which raises the operators' share above two-thirds and lowers the landlord share below one-third as an average over time results in factor returns out of line with the productivity of specific resources. Table I has been prepared to show the possibilities here. The data are for 200 acres and are based on the experimental fields at Akron, Colorado for the period 1909-38. A twenty-year period has been used since even this span of ownership is greater than for many landlords. A period of tenant operation

of this length (even on different farms) is the exception rather than the rule. Thus while twenty years may not be long enough to establish actuarial yield expectations, it is long in terms of tenant or landlord planning. Columns four and five show the tenant product under a conventional one-third and two-third lease arrangement. Columns six and seven show the annual product to either resource owner when a minimum tenant product of 1500 bushels is in effect. The tenant receives a two-thirds share when total production is sufficiently greater than 1500 bushels; he receives the entire product if yield drops below 1500 bushels. In case production is greater than 1500 but less than 2250 bushels, the tenant receives 1500 bushels while the landlord receives the residual (which is less than a one-third share if total production is less than 2250 bushels). The tenant product averages somewhat above two-thirds of the total product over the twenty years. Variability of the tenant product has been decreased while variability of the landlord product has been increased. The disparity between shares and variability (as compared to the conventional one-third and two-third arrangement) is less here than when the tenant minimum is set at 1773 bushels. Under a 1773-bushel minimum the tenant product averages 1940 bushels and the landlord's share averages 721 bushels over the twenty years.[4] For an arrangement where a minimum product to the tenant (to lessen variability of his return) results in a return to tenant resources above their marginal productivity, the logic of economics would lead to the hypothesis that an over-investment of tenant labor and capital might come about in wheat production. The increment in return to tenant resources (forthcoming as a portion of the marginal product from the land is diverted to them) should hold more people in this field of production relative to other opportunities. (Any reduction in risk or uncertainty by other means would have a similar tendency but would be economically beneficial to the extent that under-investment of resource had existed previously because of the discount on prospective returns). Thus the minimum should not represent a net addition to the tenant's product over time (if the existing share rates actually allow an approximation of the marginal productivity of tenant and landlord resources). Either one of two adjustments should be made in the leasing contract if factor returns are not to deviate from resource productivity over time:

1. *With the minimum in effect for poor years the landlord share might be increased in order that the reduction in his product during lean years can be recaptured in years of favorable yields.* If a one-third, two-third arrangement allows rents and labor and capital returns which approximate resource productivity in the absence of a minimum tenant product, then under this tenant "risk-reduction" scheme, the landlord share might be boosted to (say) seven-eighteenths of the total product. The reduction in landlord rent during poor crop yields would be "averaged out" by the greater share forthcoming in years when the total product falls entirely above the minimum. (In any case, the combination of shares, minimum tenant product and average return for the landlord over time should be computed in a manner which best approxi-

[4] The physical productivity of capital, labor or land may well change over a twenty-year period in a manner such that one-third and two-thirds shares do not characterize the marginal contribution of tenant and landlord resources. A change in techniques does not necessarily cause the productivity of factors to change by the same proportions. Too, changes in techniques or changes in the supply of or demand for either products are factors to change by (a) the same direction but by different amounts or (b) in opposite directions. These problems are, however, separate from leasing problems per se and are not analyzed here.

mates the marginal value productivity of the particular groups of resources.) An arrangement of this nature is illustrated in columns eight and nine of Table I. Here the tenant receives (a) a minimum product of 1500 bushels in years when total output is greater than 1500 bushels, but less than 2250, (b) all of the product when output is less than 1500 bushels. In other years, however, the landlord receives 38.8 percent and the tenant receives 61.2 percent of the product. Over the entire 20 years, the shares average one-third and two-thirds. Thus if these shares of the total product approximate the productivity of tenant and landlord resources, consistency of factor return and factor productivity has been maintained over time even though it is violated within individual years.

Variability of the landlord product is slightly greater under this system than under the previous system of a tenant minimum. However, the landlord would never be "worse off" over time (as compared to the first tenant minimum system) in the criteria of welfare economics. The greater variability comes about only through addition to the share in certain years. He never receives less in any individual year than under the previous minimum system. The slight reduction in relative variability of the tenant's product (as compared to the first system of a tenant minimum) comes about, however, always through a reduction in product in some years (and never through an addition to product as compared to the first minimum system). Of the two minimum systems, tenant welfare would be less under the second than under the first.

2. *Absolute adjustments might be made in years when the product is sufficiently above the tenant minimum.* Here an absolute amount would be added to the landlord product in favorable years to offset the reduction in an unfavorable year. This possibility is illustrated in columns ten and eleven: The tenant again receives two-thirds of the product in years when yield is above 2250 bushels. He receives 1500 bushels when total yield is greater than 1500 bushels but less than 2250 bushels (and the landlord receives the remainder). In years when production is less than 1500 bushels the tenant receives the entire product and the landlord receives none. However, as the landlord product drops below a one-third share in one year, it is replaced by an equal amount from the tenant's share of the following year (or as soon as yields will allow). If a run of unfavorable years occurs together with a total production of 1800 bushels in the first year the tenant would receive 1500 bushels while the landlord would receive 300 bushels (in contrast to 1200 and 600 bushel shares under an unadjusted one-third and two-third lease). With production of 2700 bushels in the second year, the landlord would receive 1200 bushels (the one-third share of 900 plus 300 to cover the defeat of the previous year) while the tenant would receive 1500 bushels (the two-thirds share of 1800 minus the 300-bushel transfer from the landlord in the previous year.) In Table I, transfers to the tenant are made consecutively in the fourth, fifth, sixth, seventh, eighth and ninth years. The entire accumulated "landlord deficit" is replaced from the tenant's share in the tenth year. The average products for the 20-year period are two-thirds to the tenant and one-third to the landlord. Again, however, the products deviate from the conventional shares (or the marginal product of landlord and tenant resources if conventional shares are so arranged) in individual years.

This system results in greater variability of the landlord product than either

TABLE I—LANDLORD AND TENANT PRODUCTS FROM 200 ACRES UNDER ALTERNATIVE SHARING ARRANGEMENTS WHICH ALLOW ⅓ AND ⅔ SHARES OVER TIME
(Data are based on the experimental yields from Akron, Colorado in U.S.D.A. Circular No. 700)

Year	Yield	Total production	Product under conventional ⅓-⅔ lease		Product under 1500 bushel tenant minimum and no adjustment[1]		Product under shares of 38.8% to tenant and 61.2% to landlord and 1500 bushel tenant minimum[2]		Product Under "absolute equalization" and 1500 bushel tenant minimum[3]	
			Tenant	Landlord	Tenant	Landlord	Tenant	Landlord	Tenant	Landlord
1919.....	24.8	4960	3307	1653	3307	1653	3036	1924	3307	1653
1920.....	20.3	4060	2707	1353	2707	1353	2485	1575	2707	1353
1921.....	28.5	5700	3800	1900	3800	1900	3488	2212	3800	1900
1922.....	1.7	340	227	113	340	0	340	0	340	0
1923.....	7.3	1460	973	487	1460	0	1460	0	1460	0
1924.....	9.5	1900	1267	633	1500	400	1500	400	1500	400
1925.....	15.8	3160	2107	1053	2107	1053	1934	1226	1500	1660
1926.....	2.5	500	333	167	500	0	500	0	500	0
1927.....	20.8	4160	2773	1387	2773	1387	2546	1614	2379	1781
1928.....	24.5	4900	3267	1633	3267	1633	2999	1901	3267	1633
1929.....	10.7	2140	1427	713	1500	640	1500	640	1500	640
1930.....	20.7	4140	2760	1380	2760	1380	2534	1606	2687	1453
1931.....	14.5	2900	1933	967	1933	967	1775	1125	1933	967
1932.....	1.3	260	173	87	260	0	260	0	260	0
1933.....	2.8	560	373	187	560	0	560	0	560	0
1934.....	3.7	740	493	247	740	0	740	0	740	0
1935.....	8.3	1660	1107	553	1500	160	1500	160	1500	160
1936.....	25.8	5160	3440	1720	3440	1720	3158	2002	2526	2637
1937.....	14.7	2940	1960	980	1960	980	1799	1141	1960	980
1938.....	23.3	4660	3107	1553	3107	1553	2852	1808	3107	1553
Av. for period.....	14.1	2815	1877	938	1976	839	1877	938	1877	938
Coefficient of variation.	64.8	64.8	64.8	64.8	57.2	84.6	54.9	86.0	57.2	88.5

[1] No adjustment made in shares during years when total production is above 1500 bushels. Tenant always receives a 1500 bushel minimum and ⅔ share when yield is above 1500 bushels. He receives the entire product when yield is below 1500 bushels. This system does not average ⅓ and ⅔ shares over time.

[2] Shares have been arranged to give approximately the same landlord and tenant products over the entire twenty-year period. Thus the tenant receives (a) a minimum of 1500 bushels in years when production allows this amount or the full product in years when the product is less than 1500 bushels and (b) 61.2 percent of the product in years when yield is sufficiently greater than 1500 bushels. This system averages ⅓ and ⅔ shares over the entire 20 years.

[3] The absolute amount (or fraction thereof) by which landlord product departs from a ⅓ share in years of low yield has been replaced in the first year in which yields are sufficiently above the tenant minimum. This system also gives shares averaging ⅓ and ⅔ over the 20 years.

the first and second systems of a tenant minimum. As compared to the first system, this greater variability never lessens the landlord's welfare. The increased variability always results (as compared to the first system) from an addition and never through a diminution of his product.

Three systems have been outlined for reducing variability in tenant returns. One of these lifts the share of output to the tenant above the marginal productivity of his resources (under the assumption that two-thirds and one-third shares allow returns consistent with productivity) both in individual years and as an average over time. Two systems maintain shares to resource owners in line with factor productivity as an average over time. Thus they need not distort resource efficiency in the sense of consistency between factor productivity and resource rewards over time. However, these two also reduce variability in the tenant product at the expense of stability in the landlord product. The end effect on resource efficiency need not be entirely positive. Since part of the risk and uncertainty surrounding tenant resources has been transferred to landlord

resources this "adjustment" may itself breed inefficient resource use. Some would claim that all facets of risk and uncertainty in highly variable yield areas should be tied to the land. (The land is inseparably located to the climate of the area while labor and capital are mobile and have alternative uses in other areas.) However, the landlord investment is also mobile and has alternatives in other industries and other geographic areas. A great Plains landlord might also invest in a livestock production system in the Cornbelt or in the stocks of General Motors. Two, the material put into tenant houses and other buildings has alternative uses. It is not impossible that the land of high risk areas can be left to lie idle while funds are invested in other alternatives.

Tenant investment and landlord investment should bear directly the uncertainties which impinge on or are peculiar to each. Certain factors of production furnished by the tenant are pure technical complements to factors furnished by the landlord. It is doubtful that any satisfactory method exists for separating the risk or uncertainty that attaches to each category of factors in cases where resources are technical complements. (Not all landlord and tenant resources are technical complements of course). An undue shifting of uncertainty from tenant to landlord resources might well have the effect of forcing a curtailment in landlord investment.

Agriculture has been pointed out as an industry notably low in capital investment. Part of the difficulty here is alleviated through the willingness of landlords to make investment in land, buildings and other resources which give off productive services for a long period of time. The tenant then is able to use his limited funds for extending input of machinery, improved seed and other capital forms which have a shorter life span and are transformed to product in a relatively short time period. The investment in real estate extends over a longer time span than for most forms of capital and labor furnished by the tenant. (Seed, tractor fuel and similar tenant-furnished inputs are completely transformed into product in a single year.) Since the investment itself and the realization of product from the services of land and buildings extends over such a long time span, it might be claimed that landlord resources involve greater uncertainty than tenant resources. Accepted concepts of uncertainty and the characteristics which define the degree of uncertainty are compatible with this hypothesis: The greater is the factor-product transformation or investment period, the greater is the inability of the resource owner to predict prices, yields and returns.[5] An increase in the time span of the investment allows a possible increase in the magnitude of (a) the variance in returns and (b) the deviation of realizations from expectations (an increase in the time span of the investment increases the inability to predict accurately or magnifies the degree of uncertainty).[6] Uncertainty (income variance) or expectational errors are indeed not less for real estate which invalues a fifteen-year investment as compared to seed and labor which invalue a one-year investment, where prediction of yields for the following year can be made in the previous fall with some degree of accuracy on summer fallow land.

[5] An exception might be made here in respect to yields. If the period of investment is long enough, the mathematical expectation of yields may be estimated within fairly narrow fiducial limits. Expectations for a single year may be entirely in terms of "subjective anticipations," however.

[6] Refer to A. G. Hart, *Anticipations, Uncertainty and Dynamic Planning*, Studies in the School of Business Administration. Vol. XI, No. 1. (Chicago: The School of Business, University of Chicago, 1940).

Non-transfer Adjustments

Rather than attempt to stabilize income and transfer uncertainty which surrounds tenant resources to landlord resources, other leasing "revolutions" are perhaps needed. One possibility is a general scrapping of the customs which permeate share leasing arrangements. Changes can be made even within the framework of share leases found in the Great Plains region. In order to lessen the "squeeze" on the tenant who has cash outlays in years of crop failures, the landlord might pay a share of seed, hired labor, tractor fuel and other major production costs which represent annual out-of-pocket expenses. The "squeeze" (associated with variable costs) would then fall equally on tenant and landlord. The tenant would not have such great outlays in years of crop failure and he would not realize as great a share of the product in years of favorable crops. (Although his share in these years might still be consistent with productivity of his resources, he would furnish fewer resources.) The landlord would bear a greater share of the variability burden not because of a transfer of uncertainty from tenant to landlord resources but because he would furnish a share of the "conventional tenant resources." The landlord would assume uncertainty which attaches to both real estate and operating capital or labor.

Where conventional lease shares (such as one-third and two-thirds or one-fourth and three-fourths) allow returns to tenant and landlord in line with the productivity of real estate furnished by the former and the labor and capital furnished by the latter, adjustments in shares would need to be made under this alternative arrangement. The objective under the new arrangement would again be one of establishing factor returns in a manner consistent with their marginal value productivity. Its advantage is that while it lessens the burden on the tenant in poor crop years (his cash outlay is not so great) it does not transfer uncertainty from distinct tenant-furnished to distinct landlord-furnished resources. Instead the landlord "relieves" the tenant of the "squeeze in poor years" by furnishing a share of the resources and costs which the tenant traditionally furnishes. Variance in landlord returns would then include two components; one associated with the traditional landlord-furnished resources and the other associated with the portion of traditional tenant-furnished resources (now furnished by the the landlord).

Welfare Criteria

It should be emphasized that the criteria of welfare economics provides no basis for singling out landlords as a group from which income should be transferred over time (a return to tenants above the marginal product of their resources) or between time periods (a shift of returns variability from tenant to landlord with shares equal to productivity as an average over time) in order that tenants have (a) greater incomes and (b) more stable incomes. While landlords in the aggregate may have greater income and wealth than tenants in the aggregate, many individual renters have high incomes while many individual owners fall at the low end of the income scale. Again, many widows, disabled operators and retired farmers depend entirely upon rental incomes for a livelihood; income of this particular group is low and were general income redistribution to be made, these individuals perhaps would be "recipients" rather than "donors." Even in a purely "variability context" economic logic cannot say that the welfare of (a) a tenant and (b) a widow as a landlord, can be increased in total by transferring income to the former in

poor crop years and to the latter in good crop years. The utility sacrificed by the low-income landlord (in years of poor crops and transfers to the tenant) may be less than the utility gained by the tenant. Conversely, the gain in utility to the landlord in years when the transfer is "repaid" need not (and would not be expected in terms of accepted notions of the utility function) be as great as the sacrifice in utility to this same landlord during years when the "transfer" is made to the tenant.

Landlords and tenants cannot be looked upon as two separate but homogeneous groups in terms of wealth and income. Perhaps economists have been somewhat prone to think in these terms (as is evidenced by the charge of "tenant bias" which is sometimes thrown at the leasing specialist). Means more appropriate and fundamental than leasing distortions are available for effecting income transfers between individuals of society. In areas where agricultural populations are dense and incomes are low, these transfers might best be made through investment in individuals to fit them for work in non-agricultural pursuits (or for opportunities elsewhere in agriculture). Too, the revenue for these income transfers and investments in the human factor might best come from progressive income taxes on all strata of society (or other sources consistent with the criteria of welfare economics.) Transfers and investments of this nature would increase the efficiency with which human and capital resources are organized. In contrast, income transfers through rental manipulations in low-income or unproductive agricultural areas makes the transfer (or income from the landlord as one member of society to the tenant as another member of society) contingent upon the tenant's remaining on the farm and in the area.

Reports and Comments

Revolution in Eastern Europe†

DOREEN Warriner has written an account of the planned, long-range revolution now taking place in eastern Europe.[1] Her book is not primarily an account of the background and the issues involved in revolutionary change. As an appraisal of the achievements to date it contributes little to resolving the controversies about these achievements themselves or toward clarification of the statistical data published about them. It is rather a description of the official view of the methods necessary to transform the social and economic structure of the region.

The problems which this revolution seeks to overcome were analyzed by the same author in an earlier book.[2] It described the situation in the region as one of extreme and growing pressure of population on the land without adequate industrial development. The conclusion reached in that study was that the most desirable solution was migration.[3] By contrast the new book is a statement of the case for another method of solving the problems of this region, using local effort and local resources.

This new book concludes that the necessary changes are being achieved by the Communist parties, now in control of the governments. The prospect of success is attributed to the totality of control over the economy. The discussion here will center on this implication that industrial development in underdeveloped areas depends on totalitarian direction.

A brief account will be made first of Doreen Warriner's description of current east European programs, with background material added from her *Economics of Peasant Farming*.

The first task of the Communist parties was to secure and to consolidate their control. This of course was aided by the presence of the Red Army. The strategy was influenced also by the lessons of the earlier Communist revolutions in Russia and Hungary, especially in the attempts to win the support of the peasants. The three distinct stages in this strategy are described below:

(1) Unity of anti-Nazi parties in the fight for freedom. The unifying program was land reform and nationalization of industries belonging to Germans and to collaborators. This stage ended with the expulsion of the Germans and the establishment of national governments.

(2) Defeat of the bourgoise parties and complete nationalization of industry. This called for using the help of the Socialists and the left wing splinters of Peasant and other parties to remove from all positions of control and influence the pro-Western democratic parties. The methods used were rigged elections and "trials." Once this was accomplished the nationalization of industry was completed.

(3) Completion of the control over the economy by the collectivization of agriculture. This program is just beginning. It is carried on by Communists and Socialists joined into united workers parties. It involves playing up the class struggle of the poor and middle-class peasants against the rich peasants. The program is proceeding slowly because it faces two types of problems. First, the controlling group must keep in mind the goal of development and avoid the temptation of becoming a popular party, responsive to the desires of the mass of the people, principally peasants, who are interested in immediate benefits. This, the author implies, is what went wrong in Yugoslavia. In such cases control over the

† Acknowledgement. In the writing of this note many valuable suggestions were made by Professors Philip M. Raup and Michael Petrovich, both of the University of Wisconsin. However, the responsibility for the ideas here expressed is my own.

[1] Doreen Warriner, *Revolution in Eastern Europe* (London-Turnstile Press, 1950).

[2] Doreen Warriner, *Economics of Peasant Farming* (London: Oxford University Press, 1939). This book dealt with Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, and Bulgaria. The recent book omits treatment of Rumania, and deals only very sketchily with Yugoslavia, providing principally the cominform versions for the break with Tito.

[3] *Ibid.*, p. 198.

economy may be relaxed and development cannot proceed. The other danger is that noncooperation of the peasants may be as disastrous as it was in Russia. Since all peasants cling to their property in land, the poor and middle-class peasants need to be persuaded that only the class enemy, the rich peasant, benefits from private property. Hence the emphasis on the class struggle in the village to persuade the other peasants that they can hope to get ahead only by collectivization along with industrial development that will remove surplus population from the land.[4]

The author discusses these methods openly and in an approving manner. This approval can probably be attributed to the conviction that total control over the economy is necessary to effect economic development in the area.

The necessary background for the need for development is provided by some ideas in the *Economics of Peasant Farming*. The evidence of that need in eastern Europe is overpopulation in economies dominated by peasant agriculture. Doreen Warriner emphasized the difficulties of capital accumulation in such societies. She concluded that peasants have a high rate of saving and, where the opportunity exists, they put capital into intensifying farming, principally by introducing more livestock. This has occurred in western Europe with the development of urban markets. In eastern Europe it followed the land reforms of the 1920's and resulted in some increase of the standards of living of the peasants. However, without alternative employment opportunities and with increasing population, savings in peasant societies did not find an outlet and were used to bid up the prices of land. The author noted but one alternative in this process: in Bulgaria a strong cooperative movement existed and it served to concentrate peasant savings for use in economic development.[5] But the availability of this alternative was weakened by the loss of political power by the peasant parties with which the cooperative movement was closely allied. The loss of political power is itself related to the problems facing the region. The peasant parties came to power in the post-World-War-I period on the platform of land reform, but once this reform was carried out they had no other programs to offer.[6]

Land reform broke up the large estates in all of eastern Europe with the exception of Hungary and some parts of Poland. But the record of the large estates indicated that they also were not contributing to capital accumulation leading to development. They were operated with permanent and seasonal hired labor. Their farming operations, however, were equivalent to what a number of peasant family farms would be doing on the area of the estate if it were divided into small farms. The intensity of their operations was even lower than that of peasant farms. The large estates continued into modern times because of the control of the machinery of the state by the landlords at and since the time of the freeing of the serfs. In Hungary they could compete with peasant farms because a landless agricultural population was available at very low wages for seasonal work and did not have to be maintained by the estate at other times.[7] In both Hungary and Poland they were capital-consuming enterprises, continually selling parcels of the estate to land-hungry peasants and consuming the proceeds, often abroad.[8]

The contrast to this situation was in western Europe where industrial development by the savings of the middle-class provided a market and alternative employment opportunities for the agricultural population. There a peasant agriculture maintained family-size farms, intensified by a change from grain to livestock production.

In this earlier book Doreen Warriner did not deal with the contribution of the native urban middle-class and foreign investors to the accumulation of capital in eastern Europe. She noted, however, that the depression and the resulting drive for self-sufficiency affected adversely eastern European economies and did not provide any inducements for investment. Also she concluded that the region was poor in mineral resources.[9] This conclusion she modifies considerably in her new book in which she states that a base for regional industrialization exists in the Silesian coal and a potential electric power system in the watershed of the Danube.[10]

[4] *Revolution in Eastern Europe*, Chapters II and III and pp. 173-74.

[5] *Economics of Peasant Farming*, p. 165.

[6] *Ibid.*, p. 38.

[7] *Ibid.*, p. 148.

[8] *Ibid.*, pp. 22, 165.

[9] *Ibid.*, p. 191.

[10] *Revolution in Eastern Europe*, pp. 112, 113.

The Communist way out of the complex factors impeding development is to impose control and planning from the top. The job is to be done by the state using surplus labor, native mineral resources and equipment, and resources which can be obtained in exchange for exports of food, timber and coal. State control of all production is desirable because then the planning decisions completely determine what shall be produced. Also this makes complete state control over payments to individuals possible so that the income paid is not so large in relation to available consumption goods as to create inflationary pressures. The burden of investment is distributed by manipulation of prices, incomes, and taxes. Incentives are provided by exhortation, piece-rate wages, subsidized low prices for necessities, and social services to workers. Doreen Warriner believes that the achievement of this completeness of control depends today on the collectivization of agriculture. She says: "The socialization of agriculture is needed not only as a means of raising productivity in agriculture, but also, and perhaps predominantly, as a way of bringing farm income and prices under control, and spreading the burden of investment more equally."[11] The attempt to collectivize is on. In the meantime graduated taxes and delivery quotas hit the richer peasants. The working population receives rationed necessities at low prices, others buy these at prices ten to fifteen times as high on the free market.[12]

The above discussion is, I believe, a faithful account of Doreen Warriner's central thesis. The development that it describes obviously foregoes democratic control of the process. It even strives to diminish what attachment there was in eastern Europe to democratic ideals and to western culture. Some of the implications of this wholesale transformation merit discussion.

The Communists are trying to build a new culture as well as a new economy. And they are doing it by being, in a sense, outside of that culture, remolding it according to goals that they developed out of their analysis of what was wrong before. In the prewar period the depression, the fear of war, and a lack of mineral resources served to impede industrial development in eastern Europe. Among the cultural impediments could be noted the antipathy of the old nobility to commercial and industrial pursuits and the traditionalism and conservatism of the peasants. However, there certainly were ambitious and technically-trained people in this region before the war. There were also industrially important areas like Bohemia and parts of Poland. It is impossible to say what could have been done in a more prosperous postwar world economy by democratic governments that could provide political stability in eastern Europe.

The Communists are trying to develop highly industrialized economies in a short time. Within a less controlled development the acquaintance with new modes of production, and therefore the incentive to invest in new enterprises, may develop much more slowly. The pursuit of private gain, which would have to proceed within the alternatives known to the more enterprising individuals, would divert resources and effort to small business organizations producing primarily consumption goods. This would lead only gradually to larger and more economic enterprises and to the development of basic industries. A Soviet writer, proposing rapid industrialization based on heavy industry, likened the competitive capitalistic process of development to wasteful guerilla warefare.[13]

The Communist plans for a faster development depend on central decisions carried out in controlled economies. To a large extent, the amount and kind of investment are determined by allocation of materials and control over prices received for products of state enterprises and wages paid out by them. The opportunity that this affords for investment can be increased by promoting a rising productivity of the workers. One job the Communists face, then, is to instill technical knowledge and mechanical aptitude, and to create new "socialist" values inspiring people to work ever harder for a better future for the whole society. Some of the methods of providing incentives have already been mentioned. There is also a great deal of emphasis on competition among workers in attaining higher levels of productivity. The trade union activities become entirely different; one of their duties is to establish ever higher piece

[11] *Ibid.*, p. 130.

[12] *Ibid.*, p. 118. The working population consists of "all wage earners and employees in industry and administration, small farmers who have fulfilled their quotas; students; writers, musicians and artists if organized in syndicates."

[13] Alexander Ehrlich, "Preobrazhenski and the Economics of Soviet Industry," *Quarterly Journal of Economics*, February 1950, p. 68.

work norms as higher productivity levels are achieved.[14] Besides the workers the number of administrators, teachers and scientists must be greatly increased and their training must also aim at creating loyalty to the regime. The whole educational process and as many of the other activities as possible function to promote conviction and enthusiasm for the Communist program.

The cultural transformation involved is to be achieved by control from above. It is significant that the Communist planners *already know* the main outlines of the society that they are trying to construct. They are not, therefore, providing leadership in a popular effort to develop the country where a continuous analysis of the lessons of experience by individuals and by the state authorities provides opportunities to redefine goals and activities. Rather the traditions and values inherent in the established cultures are frowned upon, and the purposes of actions, instead of arising autonomously from individuals integrated into a culture, are decided on centrally by a group which has derived a vision of the future from the "scientific" theories of Marxism. It is this that makes totalitarian control over individuals necessary. To be sure, the Communists believe that they are working for the future of the controlled masses and put much effort into educating them and securing their approval. But they proceed with their plans, by force if necessary, because they believe that the solution is beneficial to the masses.

It is possible that it is the all embracive thoroughness of the Communist solution that appeals to intellectuals who see their hopes stymied by the backwardness of the underprivileged and the self-interest of the leading classes. The original Marxist doctrines foresaw revolutions by a class-conscious industrial proletariat pursuing its own interest. However, all actual Communist revolutions were based on providing leadership to the discontent of the peasants primarily, and using that discontent as a stepping stone to achieving complete control.

It is probably true that the Communists in eastern Europe and in China[15] have released much enthusiasm and activity merely by providing a program and the hope of a better future. But so did Hitler and so likely will any leader who promises a speedy way out of difficulties with which nobody else has dealt effectively. It is doubtful whether this enthusiastic release of energy provides new social values adequate for a sustained program of development. Only the future will show what success the Communists will achieve; but the system of controls imposed over the whole social organization persists at the discretion of those at the top and is not subject to any check by popular thought.

An appraisal of the problems of development makes clear the need for leadership in developing a program. But the program should come out of the analysis of the nature of the problems. It is possible that a program related to the needs of the people, as the people see the needs, will in the course of the necessary technological changes effect cultural changes.

There is no ready-made simple alternative to the generality and simplicity of the Communist theories. But the obvious dangers in these of causing human hardships and foisting totalitarian regimes of unknown durations require consideration of and experimenting with other methods. It probably requires much more stress on education organized to fit local culture.[16] A given culture involves a body of ideas on how to deal with the natural and human environment. What is needed is not so much wholesale introduction of ideas of new possible activities but widespread effort, both popular and scientific, to improve from the base of present activities. Possibly more of local reappraisal, ingenuity and adaptation is needed. A progressive society is not one which can adopt all the trimmings of the west, but one which is creative of new opportunities and which protects its citizens in their creative efforts.

The above discussion represents an attempt to explore the relation of totalitarian controls to the problems involved in economic development. Doreen Warriner's latest book gives little assurance that it is an adequate analysis of the present achievements and future prospects of the revolution in eastern Europe. Unfortunately it falls far short of the scholarly level of analysis in her *Economics of Peasant Farming*.

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[14] *Revolution in Eastern Europe*, pp. 123-4.

[15] John K. Fairchild, "The Problem of Revolutionary China," *Foreign Affairs*, October 1950.

[16] An example of the discussion of this as it relates to the Near East is in H. B. Allen's *Rural Education and Welfare in the Middle East* (London: H.M.S.O., 1946), a Middle East Supply Center publication.

Accuracy of the Ratio Method for Forecasting City Population†

I

THE "ratio method" of population forecasting has long been favored by city planners. As described by Segoe, this method

> . . . . consists of deriving the estimate of the probable future population of the city through successive steps from estimates for larger political units or geographic areas. Careful estimates of the probable future population of the United States, geographic divisions, and states are available from a number of authoritative sources. The probable population ten, twenty, thirty, or forty years hence of the metropolitan district or urban area may be prognosticated with the aid of such state estimates by determining first the proportion of the state population in the metropolitan district or urban area in each previous census year and by estimating the probable proportion ten, twenty, thirty, or forty years hence based on the trends indicated by the earlier figures, and by applying next the estimated percentages to the corresponding estimated state population figures. Estimates of the probable population of the city may be derived from those of the metropolitan district or urban area by the same method . . . . It will often be well to introduce . . . . an intermediate unit between the state and the metropolitan district or urban area: the region of the state in which the community is situated.[1]

This method has been used, with minor modifications, in such important studies as the 1945 Cincinnati report, the 1946 and 1949 Detroit reports, and the 1948 Philadelphia report.[2] Typically, these studies worked with four series of ratios: regional to U. S., state to regional, metropolitan to state, and city to metropolitan. The ratios were extrapolated by various means—by logistic curves (Philadelphia), by least squares lines (Cincinnati), and by inspection (the two Detroit studies). The extrapolated ratios were applied to the then-current Thompson-Whelpton national forecasts (on which all four reports were based) to estimate future local population. The period of projection ranged from 21 years in the second Detroit report to 52 years in the Philadelphia study. Of the four reports, only the Cincinnati study subordinated the ratio-based forecasts to alternative types; two (Philadelphia and second Detroit) did not even consider different methods of projection. In all save the Cincinnati report (the work of Warren S. Thompson), the ratio method was used with great apparent confidence.[3]

The logic of the ratio method has been rather freely discussed. Segoe writes that:

> Because prognostications for larger geographic units may be made with greater reliability than those for smaller ones; and, further, because estimates for a smaller unit developed by the above method will reflect, in addition to purely local forces and factors, those that will condition national and regional population trends—this method is likely to yield more realistic and otherwise more satisfactory estimates than . . .

those made without consideration of national trends.[4] The American Society of Planning Officials, through its Planning Advisory Service,[5] makes similar comments, but suggests using this method with considerable caution for smaller cities. The surprising popularity of the ratio method probably rests less on logic than convenience; forecasts at the national level are more commonly encountered in the published literature than purely local studies and forecasts, and this technique enables the locality to take advantage of these available forecasts on a national or regional level, usually made at greater expense than a city can afford.[6]

Whatever the logic or popularity of this technique, the present authors could find no

† Calvin F. Schmid and Ladislas Segoe read the original manuscript and made many helpful comments. Dorothy Berg did much of the statistical computation.

[1] Ladislas Segoe, *Local Planning Administration* (Chicago: Institute for Training in Municipal Administration, June, 1941), p. 79.

[2] *The Population of the Cincinnati Metropolitan Area* (Cincinnati: City Planning Commission, 1945), pp. 117-119; *The People of Detroit* (Detroit: City Plan Commission, 1946), pp. 41-43; *Population and Employment in the Detroit Metropolitan Area* (Detroit: City Plan Commission, 1949); *Population Estimates, 1950-2000, Philadelphia-Camden Area* (Philadelphia: City Planning Commission, 1948).

[3] Thompson, referring to a vast number of such projections buried in the appendix of his Cincinnati report, notes (p. 24) that they are "mathematically neat" and "of some interest in showing mathematical trends but of little practical value."

[4] *Loc. cit.*

[5] *Population Forecasting* (Chicago: American Society of Planning Officials, August 1950), p. 5.

[6] See Victor Roterus and Robert C. Schmitt, "Short-Range Forecasting for Municipal Purposes," *Public Management*, December 1950, p. 268.

systematic inquiry into its accuracy in the published literature. Segoe has said that a 20-year city projection should not err by much more than 10 percent if it is to be adequate for purposes of planning.[7] In view of this feeling it seems fitting that some empirical evaluation of the ratio method be attempted. An evaluation of this type is the primary purpose of the present paper.

II

The authors tested the ratio method by making 1940 and 1950 "forecasts" for twenty American cities (from 1890-1930 data), then comparing the "forecasts" with actual enumerated population for those years.

Two forms of the method were evaluated. The first, hereafter referred to as the "long method," introduced three intermediate areas—region (Northeast, North Central, South, and West), state, and metropolitan area. Where the standard metropolitan area included portions of more than one state, as in Chicago, Portland (Oregon) and Washington (D. C.), all states so affected were included. The second form (the "short method") worked directly from national to city population.

Either a logistic curve or straight "least squares" trend line was fitted to the 1890-1930 values for each series of ratios, and extrapolated to 1950. Choice of curve type was made by inspection.

The extrapolated ratios were applied to actual U. S. population in 1940 and 1950. In actual practice, ratios must be applied to forecasts of national population. Since available national projections are not always as accurate as this technique assumes,[8] the use of actual population figures for the period of projection somewhat overstates the accuracy of the ratio method in city forecasting.

The five most populous cities in each region in 1930 were selected for study. Cities chosen from the Northeastern States, in order of population, were New York, Philadelphia, Boston, Pittsburgh and Buffalo; from the North Central States, Chicago, Detroit, Cleveland, St. Louis and Milwaukee; from the South, Baltimore, Washington, D. C., New Orleans, Louisville and Houston; and from the West, Los Angeles, San Francisco, Seattle, Portland and Denver. The twenty cities ranged from 6,930,446 to 287,861 in total population. The fastest-growing, Los Angeles, increased 2357 percent between 1890 and 1930 and 288 percent between 1910 and 1930. The slowest growth, that recorded by Boston, was 74 percent since 1890 and 16 percent since 1910.

Estimates for twenty standard metropolitan areas, obtained as part of the long-method calculations described above, were also analyzed. Since these areas are functionally rather than politically defined and are free from the complicating factor of annexations, it was assumed that forecasts for them would be more accurate than projections for their corresponding central cities.

III

Degree of forecasting error was analyzed with respect to method (long vs. short), type of area (city vs. metropolitan area), length of projection (10-year vs. 20-year), total population of city, and 20- and 40-year growth rates. Summary data appear in Tables I and II.

TABLE I—PERCENTAGE FORECASTING ERROR

Type of average and year of forecast	Percentage forecasting error		
	Long method		Short method (cities only)
	Standard Metropolitan Areas	Cities	
Median (signs considered)			
1940 forecasts.....	+4.0	+3.7	+6.8
1950 forecasts.....	+4.0	+6.8	+13.6
Mean (signs disregarded)			
1940 forecasts.....	9.0	9.3	9.3
1950 forecasts.....	16.2	15.5	15.6

No significant difference was found between long and short forms of the ratio method. The 1940 city "forecasts" had an average absolute error of 9.3 percent by either form. Mean absolute error for 1950 was 15.5 percent by the long method and 15.6 percent by the short method.[9]

Forecasts for metropolitan areas were not significantly more accurate than those for their central cities. The 1940 metropolitan area "forecasts" had an absolute average error of 9.0 percent, compared to 9.3 percent

[7] In a personal letter to the senior author, March 28, 1951.

[8] See Harold F. Dorn, "Pitfalls in Population Forecasts and Projections," *Journal of the American Statistical Association*, September 1950, pp. 311-334.

[9] C.R. = .03. Segoe feels that a more significant difference would be found in forecasts for cities in the 10,000-25,000 range (personal letter, March 28, 1951).

for central cities. For 1950, the corresponding means were 16.2 percent and 15.5 percent. Resulting critical ratios indicate that these differences could very well have been a result of chance.[10]

Length of projection was extremely important. Mean absolute error for 10-year projections (to 1940) ranged from 9.0 to 9.3 percent, depending on type of area and methodology. The 20-year forecasts, in contrast, erred on the average from 15.5 to 16.2 percent.[11] Segoe's suggested limits of tolerance for planning purposes (10 percent error in a 20-year forecast) were exceeded by well over half the estimates. Yet both the first Detroit report and the Philadelphia study cited earlier made projections of 30 years and more.

Accuracy was generally greater for slow-growing cities, but absolute size at the time of forecasting was unimportant. The authors computed coefficients of correlation for percentage error (signs ignored) in the short-form city forecasts and three selected characteristics of the cities in the sample: 1890-1930 growth rate, 1910-1930 growth rate, and total population in 1930. The magnitude of 1940 forecasting error correlated fairly well with both long-term and recent growth rates ($r = +.65$ and $+.62$, respectively). For percentage error in the 20-year projections, r was $+.40$ and $+.51$. Total population in 1930 showed almost a zero correlation with forecasting inaccuracy. This finding contradicts the Planning Advisory Service statement that the ratio method is more satisfactory for large areas than for small ones.

TABLE II—Correlation Between Absolute Percentage Error for Cities (By Short Method) and Selected Characteristics

Correlated Characteristics	r	
	1940 forecasting error	1950 forecasting error
1930 city population	−.03	+.23
1890-1930 city growth rate	+.65	+.40
1910-1930 city growth rate	+.62	+.51

IV

Several significant conclusions regarding the ratio method emerge from this study. (1) The short-form is not appreciably inferior in forecasting accuracy to the longer form usually encountered in population studies, and involves much less computation. (2) Forecasts for central cities are not demonstrably less accurate than metropolitan area projections. (3) Forecasting accuracy is not closely related to size of city. (4) Forecasts for stable cities are less prone to inaccuracy than those for rapidly-growing cities. (5) Twenty-year forecasts are almost twice as inaccurate as 10-year projections. (6) The high degree of forecasting error characteristic of the ratio method indicates it to be of limited value to city planners.

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[10] Estimated by long method. C.R. = .19 for 1940 and .18 for 1950.

[11] For metropolitan areas, by long method, C.R. = 2.18, significant at the .05 level. For cities, by long method, C.R. = 1.75. For cities, by short method, C.R. = 2.42, significant at the .05 level.

The Standardization of Data Showing Daily Population Movement into Central Business Districts

In any large urban community the central business district (CBD) plays a vital role. It would be impossible to understand the functioning of such a community without analyzing in some detail the ways in which the CBD serves as an integrating mechanism in such vital areas as communication, transportation, trade, finance and government. These operations depend on large numbers of persons and there is, of necessity, a vast daily influx of persons into the CBD from the residential sections of the community.

This article is based on the assumption that our understanding of this daily movement can be enhanced by the assembly and analysis of relevant data. Specifically, it is essential to know how many people enter the CBD during a typical weekday, and by what temporal pattern and with what corresponding accumulation (constituting daytime population in the CBD). A more detailed analysis would also include a breakdown of entrants by type of transportation used. These data not only should be collected, city by city, but the

collection and analysis procedures should be standardized so as to facilitate intercity comparisons and time-series analyses. A possible standardization procedure is herein presented for critical comment.

At present the major sources of such data are the cordon counts and /or origin-destination studies made primarily by traffic engineers in their quest for solutions to traffic and parking problems. The by-product data potentially available to social scientists for somewhat broader analytical purposes might well be recognized and used. Unless such data are to be used for descriptive purposes only—as describing the situation only for a given city at a given date—either they must be collected in comparable manner or they must be amenable after collection to statistical adjustment rendering them comparable.

To a considerable extent the manner of data collection *has* gradually been standardized.[1] Standard time periods have emerged. Comparable ways of classifying means of transportation are at least partially in use, especially in origin-destination studies.

One major difficulty does, however, remain. The areal definition of CBD has not yet been standardized. Thus the CBD size in acres (or in square miles) varies both absolutely and relatively from one city to the next. With cordon counts there has been a tendency to collect data only at selected traffic channels in order to simplify the counting operations. Cordons are often run along rivers, railroads, or other barriers that are crossed for traffic flow purposes at relatively few "stations," such as bridges or under passes. Expediency in traffic counting thus sometimes outweighs more idealized definitions of what should constitute the boundaries of the CBD.

It seems likely that with the gradual shift to origin-destination studies this difficulty is increasingly being overcome, for a CBD can be established in such a study without regard for convenient counting stations on the border of the CBD. In an origin-destination study persons are usually interviewed at home, drivers entering the metropolitan areas are stopped and interviewed, or drivers are interviewed at the time they park in the CBD. The vehicles are not counted as they enter or leave the CBD as they are in cordon-count studies. Nevertheless noncomparability of CBD areal definition still looms even in origin-destination surveys to plague the analyst as he attempts intercity comparisons.

To illustrate this problem of noncomparability the figures for three cities are offered here, these particular data having been reported from cordon counts.[2] Figures for these cities will be followed through the next few paragraphs of this article to demonstrate a proposed standarization technique.

Data as of about 1940	Chicago	St. Louis	Milwaukee
(1) Metropolitan district population	4,500,000	1,400,000	800,000
(2) Metropolitan district area, in square miles	1,200	950	250
(3) CBD as defined for cordon count, in acres	1,000	165	750
(4) Same, in square miles	1.57	0.26	1.17
(5) CBD area as per cent of metropolitan district area [(line 4 ÷ line 2) ×100]	0.13%	0.03%	0.47%
(6) CBD area as acres per 1,000 metropolitan district population [(line 3 ÷ line 1) ×1,000]	0.22	0.12	0.97

[1] The Bureau of Public Roads (U. S. Department of Commerce) has been particularly influential in standardizing such procedures. The Bureau has worked closely with state and municipal highway bodies in developing these techniques. Considerable research has been completed and findings published, especially in the form of manuals (e.g., a parking study manual issued by the Bureau in October, 1949). While earlier studies of the movement of vehicles and persons into CBDs were mainly of a cordon-count type, many of the more recent surveys have been of an origin-destination study sort, by which residents and travelers are sampled in such a way as to provide a complete cross-sectional view of the trips made in a given city during a typical day: showing origin, destination, mode of transportation, and purpose of each trip. The movement of persons in and out of the CBD then becomes but part of the larger analysis of movement throughout the city as a whole. Cf., J. T. Lynch, "Origin and Destination Surveys in Urban Areas," *Proceedings of the Highway Research Board*, XXIV (Washington: National Research Council, Highway Research Board, 1944), pp. 239-254, or a condensation in *Traffic Engineering*, September 1945, pp. 478-482; *Traffic Survey of the Sacramento Area* (Sacramento: California Department of Public Works, Division of Highways, 1949); and W. T. Taylor and Grady Carlisle, "Minimum Time Periods —Origin and Destination Surveys," *Proceedings of the Highway Research Board*, XXVIII (Washington: National Research Council, Highway Research Board, 1948), pp. 340-347.

[2] Sources of CBD area (lines 3 and 4) and persons entering CBD (line 7): 1940 cordon count in Chicago as reported in; Gerald Breese, *The Daytime Population of the Central Business District of Chicago* (Chicago: University of Chicago Press, 1949), Fig. 28 (Areas C, P and S combined and modified), p. 169, and Table 16, pp. 114-115; 1937 cordon count in St. Louis as summarized in *Comprehensive City Plan: Saint Louis, Missouri* (St. Louis: City Plan Commission, 1947), Table XIII, p. 59; 1941 cordon count in Milwaukee as reported by letter from the Milwaukee Plan Commission, 1947.

From these figures it is apparent that of the three cities St. Louis has the smallest CBD as defined for cordon counts. It is, in fact, the smallest in an absolute sense (line 3 above) and by two relative measures (lines 5 and 6). While the Chicago CBD contains more acreage than that of Milwaukee it is by relative measures (lines 5 and 6) far smaller. Indeed, on a relative basis (as related to Milwaukee metropolitan district population or area), the Milwaukee CBD looms as unusually large. Traffic data collected from CBDs so divergent in size can scarcely be valid for intercity comparisons.

There are at least two main courses of action that can be taken to render CBD data comparable. The first recognizes that an imposing array of such traffic studies has already been made without following any standardized definition of a CBD and attempts to "salvage" such previously collected data. This involves statistical adjustments that would bring these figures into more nearly comparable form for intercity analyses. Such action is in a sense ameliorative, limited to curing already existing ills. But to "milk" the findings of previous studies, a standarization procedure of this sort is suggested as a part of a total attack on the problem.

The second general course of action looks to the future with the idea that eventually technicians and scholars may be able to construct a workable standard definition of a CBD that could be applied to all cities. Whether such a CBD definition should be based on land use, combinations of functional areas, or otherwise, is a question of prime research "priority." It is *not* the purpose at this time to tackle this second problem sphere, even though the writers acknowledge its importance.

Returning now to our three-city example, a standardization procedure will be outlined. The initial step is to reduce the figure of persons entering to a rate, adjusting for the fact that the different cities have varying total populations. A suggested rate is *persons per 1,000 metropolitan district population.*[3] The number of persons entering each of the three CBDs (excluding pedestrians) between 7 A.M. and 7 P.M. on a cordon-count week day, as of about 1940, are shown here. In line 8, these are converted to rates.

	Chicago	St. Louis	Milwaukee
(7) Persons entering CBD, 7 A.M.-7 P.M. (from cordon count findings)	824,000	296,000	345,000
(8) Persons entering CBD per 1,000 metropolitan-district populations[4] [(line 7 ÷ line 1) × 1,000]	183	221	433

We now come to a crucial question: Is the Milwaukee ratio, 433, so much higher than the other two ratios merely because of conditions that are unique to Milwaukee, or is it at least partly the consequence of Milwaukee's CBD as locally defined being relatively larger than the CBDs of the other two cities? What would the count and corresponding ratio have been if the cordon as established in Milwaukee had been comparable in size to the cordons for the other two cities? We are suggesting that by a statistical adjustment an approximate answer to this hypothetical question can be provided.

Based on a pilot-study analysis of the CBDs and cordon counts for 10 representative *large* American cities (all with metropolitan-district populations above 750,000), the authors have tentatively adopted 0.3 acres per 1,000 metropolitan-district population as a "standard size" for CBDs of *large* cities (of roughly a half million or more.)[5] For purposes of this present discussion the corresponding ratios for smaller cities are not treated, although other researchers have already established the fact that the ratio increases as the size of the city de-

[3] Beginning with its 1950 population and housing enumeration, the U. S. Bureau of the Census is making use of "urbanized area" and "standard metropolitan area" as essentially superseding the previous "metropolitan district" category. Because of the greater availability of population figures on the previous basis at the time these computations were being made, the writers have used the metropolitan district population in this article. Subsequent studies will take into account the changes in Census usage.

[4] It might be noted that 183 per 1,000 has as its equivalent 18.3 per 100. In this latter form it would appear to be 18.3% of the metropolitan-district population. But because the cordon count may contain persons who in the course of a day have recrossed the cordon several times, we can only say that 18.3 per 100 and not that 18.3% entered.

[5] The arithmetic mean for the 10 cities was 0.33 acres and the median 0.31 acres—both per 1,000 metropolitan-district population. The individual ratios for these cities ranged from 0.12 to 0.97 acres per 1,000 population.

creases.[6] The main feature of the standardization procedure being recommended consists of adjusting the cordon-count or origin-destination-survey information from each given large city to what one could expect *if the size of the CBD had been defined to include 0.3 acres per 1,000 metropolitan-district population.*

This method of standardization takes into account the fact that there is a tremendous pyramiding effect within every CBD. Land values, building heights, pedestrian counts, and density of persons accumulating in the CBD—all of these generally decline as one proceeds outward from the center. This decline tends to be rapid close in, and gradual at the periphery. CBD cordon-count data presumably conform to this same general pattern. If successively larger cordons could be utilized for the same city, one would expect that the number of persons entering the cordon would increase, but not in direct proportion to the increase in area included within the cordon. It has been assumed that this relation between area and number of entrants takes an exponential form, as follows:[7]

$$N_s = N\sqrt[C]{\frac{A_s}{A}}$$

where N_s = No. of persons per 1,000 metrop. district population entering "standard-area" CBD

N = No. of persons per 1,000 metrop. district population entering CBD as locally defined for traffic study

A_s = Acres per 1,000 metrop. district population of the "standard-area" CBD

A = Acres per 1,000 metrop. district population of the CBD as locally defined for traffic study

C = Constant root involved in the relation

To obtain a value for this constant, C, requires empirical evidence in the form of simultaneous counts or information for varying size definitions of a single CBD in a given city. Thus far, the writers have been able to analyze 9 pairs of figures for 4 different cities where the number of persons entering or accumulating within CBD have been available for "inner" and "outer" definitions of the CBD. Based on these data and solving for the value of the constant, C, gave a rounded, approximate figure of 5 which would appear usable until further empirical support confirms or modifies it.[8] Substituting this as the value of the constant and 0.3 as the value of As:

Value of	Chicago	St. Louis	Milwaukee
(9) N [from line 8]	183	221	433
(10) A [from line 6]	0.22	0.12	0.97
(11) $\frac{0.3}{A}$	1.35	2.46	0.31
(12) $\sqrt[5]{\frac{0.3}{A}}$ [adjustment factor]	1.06	1.20	0.79
(13) Ns [line 9 × factor in line 12]	194	265	342

These values of Ns for the various cities—194, 265, and 342—now furnish more nearly comparable figures, insofar as they have been

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[6] The writers acknowledge their gratitude to Professor Theodore M. Matson, Director, Bureau of Highway Traffic, Yale University, for calling their attention to the recent article by S. T. Hitchcock and R. H. Burrage, "Some Travel and Parking Habits Observed from Parking Studies," *Public Roads*, June 1950, pp. 25-32. In Table 2 (p. 26) they show these average ratios of acres per 1,000 metropolitan-district population for various population groups (conversion to acres ours):

Size of metropolitan district	No. of cities studied	Ratio
Under 25,000	10	4.42
25,000-50,000	4	2.62
50,000-100,000	2	1.73
100,000-250,000	10	1.66
250,000-500,000	6	0.77
Over 500,000	2	0.32

This not only lends validating support to our ratios for large cities, but shows how the ratios rise sharply as city size drops.

[7] In its original form the relation could have been stated as

$$(N_s/N)^C = A_s/A$$

and in that form can be seen as exponential. Transposing so as to get Ns by itself on the left side of the equation gives the form shown in the text.

[8] These 9 pairs of figures have these sources: 3 for Chicago, 1940, entry figures for small inner area ("C"), an intermediate area ("C, S and P" modified), and large outer area ("C, S, N, W and P" modified) of the CBD (as adapted from Breese, *op. cit.*, pp. 166-174); 2 for Detroit, 1936, entry and accumulation figures for an inner CBD district and a large "Grand Boulevard" cordon district (*Street Traffic, City of Detroit, 1936-37* [Lansing: Michigan State Highway department, 1937]); 1 for Omaha, Nebraska, 1938, entry data for a smaller district and for a larger "Restricted District" (Works Progress Administration, *Street Traffic Research and Planning, City of Omaha, 1938-39* [Omaha: Department of Police and Public Safety, 1939]); and 3 for Sacramento, California, 1948, entry data for a small inner district ("L"), an intermediate district ("K,L"), and a large outer district ("J, K, L") (California Department of Public Works, *op. cit.*). The arithmetic mean value for the constant from these 9 pairs was 5.57 (influenced by rather high Chicago values); the median was 5.01; and the closest whole figure found by hand-fitting a curve on semi-log paper was 5.

through a two-way standardization process: (1) for population of the metropolitan district involved and (2) for relative size of the CBD in acres. The final figures are by no means identical, but the variation has been considerably and meaningfully reduced. (As suggested in Table I, the apparent inverse relation between size of the entry figure and the size of the metropolitan district is a very plausible possibility.)

A further illustration of the application of this method of adjusting traffic-study information is provided in Table I. The heading of this table shows metropolitan districts ranked by their 1940 size, while dates forming a time series constitute the stub. Bracketed figures are to be treated with particular caution as representing estimates or nonadjusted data, but possibly suggestive of trends.

TABLE I—THE DAILY ENTRY OF PERSONS INTO SELECTED CENTRAL BUSINESS DISTRICTS STANDARDIZED FOR METROPOLITAN DISTRICT POPULATION AND FOR CENTRAL BUSINESS DISTRICT ACREAGE, 1926-1946[a]

Date of Cordon Count	Metropolitan Districts (with 1940 population in 1,000s)					
	Chicago (4,500)	Los Angeles (2,500)	Boston (2,350)	Detroit (2,300)	St. Louis (1,400)	Rochester (410)
1926	226	[410][b,e]	[301][b,e]	....	206	....
1927	....	....	....	....	....	[441][d]
1928	223	....	....	....	....	438
1929	226	....	....	....	....	447
1930	....	....	....	....	....	[428][d]
1931	204	[310][b]	[301][b,e]	....	....	....
....						
1935	181	....	....	....	....	....
1936	191	....	....	158	....	....
1937	202	....	....	....	265	[442][d]
1938	193	226	234	....	....	....
1939	199	....	....	....	....	....
1940	194	....	....	....	....	[443][d]
1941	192	215	....	....	[221][e]	....
1942	187	....	....	....	....	....
1943	187	....	....	....	....	....
1944	181	....	....	181	....	[410][d]
1945	183	....	....	....	....	....
1946	209	[210][b,e]	....	....	[234][e]	[504][d]

(a) The figures in the body of the table represent the number of persons (excluding pedestrians) entering selected CBDs 7 A.M-7 P.M. on the week day of the cordon count, adjusted to "standard-area" CBDs (0.3 acres per 1,000 metropolitan-district population for large cities) and expressed as rates per 1,000 metropolitan district population. This table, while admittedly incomplete in exhausting sources and while utilizing a standardization procedure that is itself tentative, should serve to show the type of comparisons possible. Figures in brackets should be treated with particular caution as being estimates or incompletely standardized data.

(b) Acreage of CBD not known, so figure not adjusted to "standard-area" CBD.

(c) Date of count estimated by present writers.

(d) Vehicle cordon-count figures converted to persons on the basis of benchmarks and factors. Generally, the more recent the figures, the less reliable the conversion

(e) Cordon-count figure estimated by city agency.

The single city for which the table shows the most complete time series is Chicago. For this series the standardized number of CBD entrants remains fairly steady for a twenty-year period, with a slightly downward secular trend (from about 225 in the late 1920's to what appears to be about 200 in the middle 1940's). There is an apparent cyclical trend hitting a low of 181 in 1935 (no counts exist for 1932, 1933, or 1934), up to a high of 202 in 1937, down to a low of 181 in 1944 and returning to a high of 209 in

1946. Whether these Chicago secular and cyclical trends are also representative of other large cities cannot be stated until further data are available.

Another general relation that these preliminary findings suggest as a tentative possibility is that as city size decreases, the number of entering persons per 1,000 metropolitan-district population tends to increase (at least for cities large enough to qualify as metropolitan in character). Chicago, the largest metropolitan district, generally had the lowest number of entering persons, although Detroit for some still undiscovered reason also had very low counts. In contrast, Rochester, the smallest district, had the highest figures.[9]

While the authors have not considered it within the scope of this article to discuss these apparent trends or relations *per se*, it may be appropriate to at least offer examples of the possible value of pursuing the approach. (1) It is hoped that a measure of persons entering CBDs such as suggested above may help urban researchers to assess the relative importance of a given CBD—on both time-series and inter-city bases. Do CBDs now play a less important role than they previously did, as a counterpart of so-called "decentralization" trends? Do the CBDs of some cities draw a relatively greater number of persons than those of other cities? (2) The possibility of introducing comparability into this type of data should make the findings of one study more intelligible and useful by providing a framework based on larger numbers of counts: from many cities and for different years. This should directly aid traffic engineers, city planners and other officials responsible for putting these data to work in solving municipal problems. (3) At this particular moment, when civilian defense of our large metropolitan centers is a high-priority challenge, it is imperative that we move rapidly in assembling reliable information on the nature of CBD daytime population. For example, we must know how many people would need shelter, transportation, etc., if trapped in a CBD during a bombing raid. It is hoped that assembling data (as described in this article) will lead to the formulation of certain general statements of trends and relations such that estimates and trend projections of CBD entry or accumulation figures could be prepared *even for cities lacking recent traffic surveys.*

One of the first steps by which the standardization technique suggested above might be tested and augmented is the preparation of a master table in the general form of Table I, based on the collection of more data. Should the method—or modification of the method—prove workable, even further detailed data, taking into account type of transportation, time period of entry, and maximum accumulation of entrants, might also be adjusted by the standardization procedure suggested above. Further empirical evidence from cities where simultaneous figures are available for inner and outer definitions of the CBD is also essential to check the constant used as the root (in this case tentatively set at 5) in the adjustment factor.[10]

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[9] The high entrance figure for Rochester may reflect not only its smaller population but the additional fact that its CBD is very centrally located in the city and includes five key bridges across the Genesee River, thus funnelling an unusually high proportion of city traffic through the cordon counted. The following single-year counts, standardized to match Table 1 figures, also support the fact that smaller metropolitan areas would seem to have relatively large counts: Cleveland (1938)—287, Baltimore (1938)—252, Milwaukee (already cited)—342, and Memphis (1946)—422.

[10] A survey is presently being undertaken by one of the writers to determine the extent of and to collect CBD traffic-study data available in published and unpublished form. For the purposes of this additional survey, data will be of maximum value if reported to either of the present writers so as to include the following: (a) date of each count (simultaneous counts to check the contant root value especially needed); (b) CBD acreage as included in each traffic study; (c) total number of passengers entering CBD during the period 7 A.M.-7 P.M. by all modes of transportation. Unusual considerations, the omission of certain types of transportation, etc., should be reported in each case; and (d) maximum accumulation of passengers in the CBD. These figures should be comparable to those referred to in "c" and should show the cumulative (net) difference between entrance and exit by half-hour periods. Qualifications noted in "c" will be assumed to apply here unless otherwise specified.

Book Reviews

Economic Resources and Policies of the South. By Calvin B. Hoover and B. U. Ratchford. New York: The Macmillan Company, 1951. pp. 464. $5.50.

The cultural lag often attributed to the ante-bellum society of the Old South has been transposed. More often than not, the lag appears these days as a deficiency in knowledge on the part of non-southerners about the social and economic reformation that is in progress below the Mason-Dixon line.

Those agricultural economists who have not seen for themselves the impressive changes occurring in the South since the 1930's sometimes appear reluctant to believe what they hear and read from scattered sources, clinging instead to a set of fixed notions drawn largely from a depression brand of literature about as contemporary as *Uncle Tom's Cabin.* True, the magnolias still bloom, the mockingbirds still sing, and hookworms and pellagra are not unknown; but catalytic crackers, cotton harvesting machines, hydro-electric plants and cotton spindles have shoved these early-day phenomena into the background. If one is determined to see nothing in the South but such exotic institutions as the plantation, an intriguing body of folklore is still to be found. A hearing aid is in order, however, if one is to catch the muted notes of "Tote that bale!" and "Hoe that row!"

This volume takes a long step toward slaying the fantasy of a South that never existed in actual perspective and which, in mid-century, is still further removed from the place awarded it in fiction. Under the auspices of the National Planning Association Committee of the South, Hoover and Ratchford have brought together the most recent data available on the economic resources of the South, their utilization, and prospects for future development. Altogether, it comprises an excellent source book for the student of national as well as regional policies.

A bit rambling in organization, the study presents the descriptive material on physical and human resources, income, agriculture, industry, public finance and capital needs in a galloping condensation of secondary information. Separate chapters are devoted to policy considerations applying to natural resources, forestry and agriculture, industrial development, labor and wages, and international trade. Policy statements, however, appear—often in secluded nooks—throughout the report. The persistent reader will be rewarded for his patience if he consumes all of it. He will find some chapters, notably those on agricultural policy and the cotton situation, to be outstanding contributions.

The factual basis for the South's distinctive regional characteristics is established in the first one-third of the book. For some, there will be considerable educational value in the knowledge that: 1. "In comparison with the states of the Middle West, the South has only a third as much of first quality land, a little more than half as much second quality land, and somewhat more of third quality land." (p. 5) 2. In 1940 the South had 55.1 "non-productive workers" for each 100 "productive workers" (persons between 15 and 64 years of age), as compared with 43.8 for the Non-South, a potent factor in the per capita income picture. (p. 28) 3. Rejection rates under Selective Service were above the national average in all southern states, and far above in some, but below average for mental diseases. (p. 29) 4. In 1945-46 the South had 33 percent of the school-age children of the nation enrolled in school and only 20 percent of the national income. (p. 31) 5. Losses in population quality have been exaggerated, for while ". . . . the South does lose some of its best human resources through migration, it also gains substantial numbers of people in return, and, on the average, they are better educated and hold better positions than those who leave the region." (p. 42) 6. Regional income differentials are rapidly being leveled, the coefficient of variability among all states having dropped steadily from .3694 in 1929 to .2139 in 1948. (p. 49) 7. Political note: government payments have heavily influenced the South's relative gains in income, especially during World War II.

(p. 60) 8. Southern manpower is not inefficient when compared "man for man, using the same ratio of economic resources and with equally good management." (p. 66) 9. Poor health has been a minor factor, education a factor of diminishing importance, in the low income productivity of the South. (p. 69) 10. Low soil productivity is ". . . . now a major cause of low incomes." (p. 71) 11. The shortage of "capital funds for investment . . . has been overrated as a barrier to economic development." (p. 74) 12. Industrial research facilities are woefully short of the needs, only 6.5 percent of the national total being located in the South. (p. 77) 13. Freight rate differentials have been "unduly magnified as a factor affecting the industrial development of the south . . . ." (p. 84) 14. Foreign trade is no longer as basic to the southern economy as it once was, there being little difference between the South's dependence upon exports and that of the rest of the country. (p. 86) 15. Industrial price administration is not altogether disadvantageous to the South today, especially since farmers "have learned to play the game of 'Monopoly'." (p. 88) 16. Mechanization offers the great hope for the forward progress of southern agriculture, although the two principal crops —cotton and tobacco—so far have been stubbornly resistant to technology. (pp. 110-114) 17. "Since 1929, the South has realized substantial industrial growth in both absolute and relative terms," with the high-wage industries showing the highest rate of increase. (p. 138)

Thus having generalized for the regional economy as a whole, the authors proceed with the business of proposing means for improving the economic health of the South. The major premise is that the South must look to industry for its future. How to maintain and increase present rates of industrial growth? Ten general elements of an acceptable policy by the southern states are listed: honest, efficient government; a sound labor code (not to be confused with repressive anti-union legislation); expansion of water and electric power; better forest management; a sound, fair tax system (not tax handouts); establishment of industrial development corporations; greatly increased technical training and research facilities; better highways; the avoidance of interstate trade barriers; and support of the wise, restrained use of federal powers to maintain high-level national employment sufficient to absorb displaced southern farm population.

In the process of enlarging southern industry, "the states must carry the bulk of the work and responsibility." The federal government has the responsibility only in terms of the national interest, and this justification is declining in direct proportion to the relative increase in southern income. Apart from governmental policies the major factors determining industrial development and location are markets, raw materials, and labor supply—in that order. The prospect of a cheap labor supply, it is noted, is fast losing its appeal to company executives. Such gimmicks as advertising, cash bonuses and tax exemptions have not produced very striking results in attracting new industry.

Hoover and Ratchford are appalled by the "gas rush" in Texas and its probable impact upon industry location. During the 17 months ending June 1, 1948, installed pipeline capacity from Texas rose from 1,754 million cubic feet of gas per day to 3,600 million cubic feet per day. (More recent figures would show a much greater increase.) "It is doubtful," the authors comment, "that we have ever before seen such a rapid increase in the exploitation of one of our major natural resources." The power of a state to prevent the depletion of its resources through interstate channels is questionable, but a "substantial" severance tax is proposed as a brake on the reckless out-of-state consumption of Texas gas.

In explaining this large-scale substitution of gas and oil for coal as a major fuel source, the authors display a piquant emotional strain that is oddly out of character with the rest of the report. Much of the stimulus for the shift, they say, has been due to a growing uncertainty in regard to the supply of coal. "That uncertainty," they charge, "grew out of the whims and caprices of one man, a man with no observable regard for the public welfare." It seems passing strange that economists as able as Hoover and Ratchford could thus wax indignant about John L. Lewis. Surely the coincidence of interests in surplus removal of high coal inventories between Lewis and the coal operators has not completely escaped their attention! In his heavy-handed role as Public Villain Number One, Lewis undoubtedly has earned the undying affection of the operators, more particularly the northern operators, whose per-

sonal welfare over the short run lies in the direction of restricted production. Should not the applause for John L's annual histrionics be shared with his fellow thespians sitting across the bargaining table?

Most of the analysis in the book is marked by restraint, indeed, extreme caution. Such favored whipping boys as freight rate differentials and tariffs are carefully played down as causes of the historically disadvantaged position of the South. Items containing political dynamite, such as TVA, are handled with devious objectivity. Racial problems are either ignored or by-passed with a becoming wariness. Federal-state functions are treated with a deference calculated to please at once the restive spirits of Alexander Hamilton and Thomas Jefferson.

This temperate approach is perhaps best illustrated by the conclusions with reference to agricultural policy. These fall, rather vaguely, somewhere in the intellectual breeding ground between T. W. Schultz and Secretary Brannan; i.e., a combination of free market pregnancy and governmentally-subsidized contraception. Through a broad system of compensatory payments to agriculture at stop-loss levels, Hoover and Ratchford would leave the way open for adjustments in the production pattern, assure the southern producer a higher real standard of living and minimize the conflict of interests between agriculture and the consumer and taxpayer. This proposal, designed to please everybody, is far more likely to have the opposite effect.

Despite their sometimes painful efforts to find a middle ground between the extremes, the authors are by no means lacking in sincerity. Their concern over the dangers of prolonged inflation exhibits their thoughtful conservatism at its best:

"Once politician-statesmen have learned the efficacy of even very crude measures in preventing depressions and unemployment, deficit financing becomes a most tempting way to meet the manifold and constantly growing expenses of government and to satisfy the demand of pressure groups for ever larger governmental subsidies, either outright or concealed. Furthermore, higher wages, higher farm prices, and higher industrial profits can always be permitted or even encouraged if the government stands ready to maintain purchasing power by sufficiently massive deficit financing. If this process is pursued without restraint all the devastating evils of inflation will arise.

"This means that there is the most urgent need for the development of an adequate economic theory as well as adequate economic mechanisms and procedures for the maintenance of a reasonably adequate level of economic activity in the economy. There are immense needs in this area. What is more important, however, is that politician-statesmen should learn that the powers of the federal Government to maintain adequate levels of employment must be used with restraint and with the greatest care. This means that the economist must depend upon the politician-statesman to resist the painfully efficient pressures of special interest groups if he is to have a chance to aid in keeping the economy on an even keel. Upon the successful solution of this problem of the maintenance of employment in the economy without inflation the future of capital investment in industry in the South and indeed in the whole nation depends."

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Agricultural Discontent in the Middle West. By Theodore Saloutos and John D. Hicks. Madison: University of Wisconsin Press, 1951. pp. 562. $6.75.

This book is the story of Midwestern farmers' efforts to improve their economic position by group action during the period 1900-1939.

Farmers came out of the Populist period of hard-times radicalism at the turn of the century into a period of steady (and, during World War I, rapid) economic improvement. Prices were rising year by year, land values following suit. But the Populist tradition of fighting the railroads, the middlemen, the "monopolies" and the bankers did not die.

It was during these early years of the Twentieth Century that the American Society of Equity, the Farmers Union and other expressions of discontent got rooted. Also, these were the years when LaFollette progressivism was taking hold in Wisconsin, and when farmers in many Midwest states overthrew the railroad domination of state legislatures.

Agitation by farm organizations was relatively mild, however, until after World War I when the collapse in prices came. Before that, farmers had fought the "interests," had worked to establish co-operatives, and in other ways had sought by local or state action to increase their incomes. In the Twenties they demanded national government action

to give them "parity" and "a tariff equivalent for agriculture."

As the agricultural depression lengthened, farm organizations tended to work together more than ever before—or since. They forgot some of their minor differences in the major effort to raise farm product prices. In the early stages of the New Deal farm programs the farm groups retained some of this unity—but it did not last long.

This history is not the record of a sweeping, unified "agrarian" movement. Rather it is a record of many *varied* symptoms of discontent, of quarrels among farm groups over methods of attack—should they rely on political action or economic action, and what *kind* of economic or political action?

Saloutos and Hicks wisely have not followed a strict chronological pattern. They have taken up the various movements more or less separately—the Equity, the Nonpartisan League (the two on the League are among the best chapters in the book), the Union, the Farm Bureau, the third party movement in the early twenties, the farm bloc in congress, McNary-Haugenism, the farm strike (Farm Holiday movement), and so on.

One seldom finds a book dealing with events with which he himself has had intimate knowledge that does not seem wrong in emphasis or lacking in accuracy. But the present reviewer can find little fault in the Saloutos-Hicks treatment of the exciting farm agitation of the Twenties and Thirties. In the chapters dealing with farm co-operatives and some of the farm organizations the authors have indulged in a more extensive report of business activities than seems necessary. And there is some unnecessary repetition.

The book is written in clear, smooth-flowing prose. (This reviewer read it cover-to-cover in two evenings.) An "epilogue" at the end does a nice job of knitting together and interpreting the diverse movements of the four decades. The book is well foot-noted for those who wish to dig more deeply.

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The Urban Pattern. By Arthur B. Gallion. New York: D. Van Nostrand Company. 1950. pp. 418. $9.00.

The Urban Pattern by Dean Arthur B. Gallion and his collaborator, Simon Eisner, is a valuable and refreshing contribution to the growing literature on the urban scene. The authors have brought together in condensed form a highly readable account of the development of historical urban patterns. This less important part of the work is made the more exciting as reading and the better as historical analysis because the patterns of urban growth and structure are intimately and progressively related to evolving cultural patterns and changing economic directives as well as to the more obvious determinants of geography, climate, and political expediency. Here are traced the genesis of the urban form, the complex product which architectural historians oversimplify as the "classical city," the medieval town, neo-classical monuments and facades—all carefully and critically reviewed in lively manner.

To reviewing the forces creative of the industrial city Mr. Gallion has, it seems to me, devoted too little of his energies and the chapters in this section seem possibly too condensed. However, the references are extensive and stimulating and the forces counter to industrial slum and Victorian mediocrity are thoughtfully traced. Here also is an excellent summary of the numerous social, political, and economic panaceas designed to improve the urban environment—new towns, new methods of financing them, new concepts of population density and new ways of living. The contrasts in good and bad housing, in improved standards of site planning (as yet inadequate to the immensity of the task) are clearly expressed in "Issues in Focus" which summarizes our gradual awakening in the 1930s to the urban confusion and outlines of some of the possible solutions proposed by governmental and private enterprise in the field of housing and, more broadly, in the conservation of our total urban resources and land values.

Mr. Gallion's interest in the philosophy and economics of contemporary land development seems, throughout the book, to be more extensive than he has been able to develop within the limitations of space. His chapter

on "Contemporary Standards," however, brief as it is, is both a fine summary and a provocative critique of conventional public and private developmental standards and policies. This chapter deserves second reading and might well serve as the basis for a further definitive study of city and regional planning standards.

In the author's "New Horizons" we see an excellent understanding of the impact of present land abuses, of the technical schemes of various kinds of planners, of political devices for their accomplishment, and the economic limitations to their success. Without partiality to method or to particular design we see here stressed not only the need for urban rehabilitation and new concepts of urban esthetics but a new understanding of the purpose of the urban environment.

The Urban Pattern is a work not only badly needed by the layman and anyone interested in problems of civic growth and improvement of the urban environment but the book is one for the professional student as well—the planner, the urban geographer, the land economist, and the urban sociologist. Proponents of public and private development will find here good food for thought, whether they be entrepreneurs, public administrators or Gallion's "lowest common denominator" —the citizen.

The monumental scope of the study leaves adequate grist for the mill and points to a rich future for further research in this field of the urban environment. The price of $9.00 which the publisher has set for the "student edition" (the book without its jacket) somewhat limits its general use as a class text for university courses in the field of urban growth and structure and in courses in city planning. Its technical chapters and tables, however, make it an excellent reference, valuable in every library and on the shelves of all professional planners. A study of this type has been sorely needed.

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Farm Law in Wisconsin. By J. H. Beuscher. Appleton, Wisconsin: C. C. Nelson Publishing Company. 1951. pp. 310, appen. $4.00.

Farm Law in Wisconsin is a most interesting and readable book. The author has for some time past conducted classes in farm law at the University of Wisconsin. In addition, he has been an outstanding example of cooperation between the schools of law and agriculture in legal problems relating to the farm and to the farm family.

The name of the book indicates particular reference to farm law in Wisconsin. The wealth of material in it and the manner of presentation, however, make it of value far beyond the borders of Wisconsin. The bulk of the discussion centers around the legal aspects of land use and thus from that standpoint alone the book should be brought to the attention of the readers of this *journal.*

An outstanding feature of the book is its human interest and readability. The discussion cites typical examples, questions and answers. For example, in illustrating the role of the courts as law makers, the author cites three interesting cases: (1) a fox-hunting episode involving two hunters, (2) a similar deer-hunting episode, and (3) a fishing incident involving a harpooned whale. After reading these and other similar items in the second chapter, the reader finds he has a strong desire to read the rest of the book.

In Parts III and IV, professional workers, attorneys, bankers, and farm folks generally will find much of interest relating to: (1) getting started in farming, (2) father and son farm-operating agreements, and (3) the family farm-transfer problem. In this section the book has benefited much by the close association of the author with agricultural economic departmental staff members at the University of Wisconsin and in other states.

The fourth part of the book presents a discussion of the legal problems involved in running a farm and answers questions regarding regulations affecting the farm business; taxation; secured and unsecured farm debts; boundaries, fences, and water rights; and trespassing, animals and strays.

Some evidence as to the thoroughness of the author in the preparation of this book is the 572 footnotes of legal citations and explanations in Appendix A. Appendix B presents helpful legal forms often used in the business of farming. Examples of some of the forms included are deeds, mortgages, sample abstract of title, farm leases, and promissory notes.

A series of pointed questions and problems are presented at the end of each chapter. These are extremely helpful to the reader in

again checking how well he knows the law on the particular item in question.

This book should be "required reading" for attorneys and others serving farm folk. This is particularly true of the chapter dealing with farm leases and the seven chapters dealing with father and son farm-operating agreements and family farm-transfer arrangements. Few attorneys and but few professors in schools of law have taken the interest in and have so good an understanding of these problems as has Professor Beuscher.

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Agricultural Market Prices. 2nd ed. By Warren C. Waite and Harry C. Trelogan. New York: John Wiley & Sons, 1951. pp. 430. $5.25.

The purpose of this book is "to cast light on how prices vary about equilibrium positions and why they change so persistently and frequently." Those variations in farm prices affecting entrepreneurial decisions are the central interests of the authors. The analysis is developed systematically around a theoretical scaffolding with ample commodity example and statistical illustration. The book is intended as an upper-division text for students with basic training in economic theory and in statistics. It is not intended to describe business practices or institutions in agriculture but rather to provide understanding of the fundamental determinants of price changes and the possibilities of control over or adjustment to such determinants.

There is first a discussion of the functions of price and its relationship to money and credit. Then the meaning and measurement of general price levels, of demand, and of price, substitution and income elasticities are analyzed. A descriptive treatment of the supply-attributes of agricultural commodities is followed by an elementary but comprehensive presentation of price determination under major types of cost, supply, demand, and market structure. These equilibrium price determinations are then adjusted for the impact of different classes of markets and methods of processing and marketing. The factors affecting interrelationships among markets separated by space, time, and product characteristics are specified in full. There is a brief development of price determination for the several kinds of productive factors. Thus, the bulk of the book is devoted to the theory of price formation and to changes in prices as a function of changes in interrelated demand, factor cost, and production determinants. The analysis of price formation is then applied in a largely descriptive treatment of OPA experience and of agricultural support and control programs. Finally, there is an appendix presentation of methods of measuring price variations.

Appraised in the light of its stated objectives, this is an excellent book. There is an entirely logical development from pure price theory to price policy. The book is properly pitched to the advanced undergraduate student. It could effectively serve as single or major text in price analysis for such students. There is full recognition of the fact that prices are made in markets and that price determination, price support or price control are significantly affected by the prevailing competitive context. The theoretical framework rests upon awareness that factor prices, production conditions, and transfer costs, as well as demand, are ultimate determinants of prices. The book does not cover a variety of technical issues involved in advanced demand measurement nor are a variety of more complex and refined measurement techniques which are available in journal literature used. Of its kind and for its goals, the book is a fitting tribute to the distinguished career of its senior author.

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Wartime Food Procurement and Production. By Benjamin Baker. New York: King's Crown Press, Columbia University, 1951.

Mr. Baker has surveyed the vast backwash of documents that have been left in the wake of the food supply programs of World War II. On the basis of this evidence he has constructed an account of the evolution and operation of the various measures designed to control food procurement and production. The central agency responsible for mobilizing agricultural resources was the War Food Administration which, Mr. Baker concludes, "played a signal part in coordinating the forces that made possible the maximum util-

ization of the available production resources." He makes this judgment from the vantage point of one who worked for that agency.

As the quotation implies, Mr. Baker regards administrative coordination as the critical issue in war food programs. Such a frame of reference is perhaps inescapable when the data are the face value of the memoranda, agreements of understanding, and committee reports that have been embalmed in the archives of the unlamented war agencies. With considerable industry Mr. Baker has worked over these shards of a political era that has already lost the sharp distinctions of reality and pieced them together to reconstruct what amounts to an official image of the war food program. Probably a latter day political archeologist would conclude from such a reconstruction that the objective of those concerned with food administration was coordination. They certainly wrote enough memoranda about it.

To the degree that Mr. Baker's objective is description rather than analysis, coordination is a relevant issue. A full documentation of the attempts to reduce friction between the War Production Board and the Department of Agriculture, and later the War Food Administration and the Office of Price Administration by delegation of authority, coordinating committees and agencies such as the Office of Economic Stabilization is useful as a basis for analysis. However, coordination is in itself without substantial meaning. The repeated failures both to coordinate and to develop effective allocation of food resources for mobilization and war stemmed from the inability to resolve the underlying questions at issue. In this context the fact that an abundant food supply more than compensated for the lapses of food administration is beside the point.

In the area of food procurement and production the critical point was the allocation of resources to deliver determined requirements in the precise meaning of the word. Mr. Baker devotes considerable space to discussing allocations and what are called requirements, but he does not indicate the overwhelming importance of making a clear distinction between these terms and the kind of operations they imply. The many attempts and failures to achieve coordination in fact arose from the practice of those responsible for making allocations to distribution agencies to allocate on the basis of residuals rather than requirements. Since residuals fluctuated rapidly, the result was confusion which no amount of administrative coordination on paper could restore to order.

Essentially, the source of this confusion was the failure to achieve an integrated food policy, a failure too deeply rooted in the war administration to be cured by coordination. The production and procurement of food was directly related to stabilization, total production and a new pattern of distribution based on equity and designed to meet rapidly shifting demands. Not recognizing the full responsibility involved in these relationships created the issues of which the attempts at coordination were symptoms.

It is perhaps complaining that Mr. Baker did not write a different book to suggest that he has not dealt with the relevant issues in food production and procurement. He has prepared a useful description and it would be unfair to suggest that he has eschewed analysis altogether. His position on the role of the parity price program as an instrument for setting production patterns inconsistent with wartime food needs is well taken. Given the level on which he has elected to write, the pattern of what was done is clearly drawn. In limiting himself to this question rather than attempting to analyze the how and why, Mr. Baker has not only kept faith with the tradition of wartime administrative histories, he has also gone about his job with energetic scholarship.

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The Closing of the Public Domain: Disposal and Reservation Policies, 1900-1950. By E. Louise Peffer. Stanford, California: Stanford University Press. 1951. pp. 372. $4.50.

The author states in the preface that it was her purpose in this volume to "relate, on the basis of the sources which are available, the steps by which the concept of the public domain has veered from one of land held in escrow pending transfer of title, toward one of reservation held in perpetuity in the interest of the collective owners, the people of the United States." She defines public domain as "land available for sale, entry,

and settlement under the homestead laws or other disposition under the general body of land laws." It is the closing of this public domain—an area which exceeded 590 million acres in 1900— with which she is concerned. More specifically, she presents here a study which is concerned primarily with federal policy governing the disposition of these lands since 1900. This is not a history of the administration of government-owned lands for the period.

The study rests upon detailed and extensive examination of large bodies of records—congressional debates, reports of committee investigations, the various printed reports and other papers of the executive departments and a host of other materials. The story, presented in chronological form, traces out the two major phases of 20th-century federal land policy: sale or gift to entrymen, and reservation. The 19th century notion that the public domain should be parcelled out to individuals and made into family farms continued into the 20th even though the land remaining was largely unsuitable for this purpose. Nor did such changes as the Kincaid act, which permitted bigger dry farming homesteads, the enlarged homestead act, or the grazing homestead act, make possible a successful settlement of semiarid land by family units. Nevertheless, under these and older laws, an extensive portion of the remaining public domain was sold or given away after 1900. But most of the book is devoted to a discussion of the formulation and execution of the policy of reserving lands in the public domain. The first forest reservations had been made before the end of the 19th century, but early in the 20th, under the impetus of the conservationists, many more forest reservations were established. Thereafter, other reservations to protect water power cites, oil, and mineral lands were made. Finally in the 1930's the Taylor grazing act established grassland reservations. There is also a detailed description of the slow development of the administration of the reservations, a general treatment of the adoption of a system of leasing land, and the difficulties in the jurisdictional dispute between the forest service and its supporters, on the one hand, and the Department of the Interior on the other.

The adoption of the Taylor act and the various difficulties in the administration of the lands receive detailed attention. The author also presents a full examination of the attacks by Senator McCarran and others upon the Taylor grazing act. The failure of the livestock grazers to win support for their plan to bring about the sale of the grazing lands at low prices—a scheme blocked by other western groups whose interests were affected—suggests to the author that there is little likelihood that the public land now in reservations will be opened again to private entry. She acknowledges, with something akin to distaste, that the regulations governing the use of reserved lands will be shaped and controlled by political decisions, and complains that, in comparison with the 19th century, 20th century pioneering has too frequently been "exploitive," "acquisitive in its less attractive connotations," and "speculative,"—a position which would be difficult to maintain on a basis of a careful study of the 19th century pioneering.

An excellent appendix recording statistically the disposition of the public domain gives additional value to this useful and needed book.

VERNON CARSTENSEN

University of Wisconsin

German Agrarian Politics After Bismarck's Fall. The Formation of the Farmer's League. By Sarah Rebecca Tirrell. New York: Columbia University Press. 1951. pp. 336. $4.50.

The study covers mainly the short period while Caprive was Chancellor (1890-94). It was undertaken in the hope that some light might be shed upon German domestic politics after Bismarck's dismissal. Though based only on printed sources available in United States, it gives a very impressive picture of events, movements, and personalities. The discussions and conflicts concerning the commercial treaties with Austria, Rumania and Russia are of great interest and reveal some facts hardly known even in Europe. Only a few mistakes should be corrected: Prince Henry of Prussia was a brother, not a son of William II, and the politician Sombart was not the well-known economist Werner Sombart, but his father.

The author writes in a true scientific, unbiased spirit. But the explanation she gives of the word "Junker" does not seem to

be quite sufficient to dispell all ideas fostered by political passions. When she uses the term "peasants on the latifundian estates of the East," many American readers will not be aware that the average size of a "Junker's" estate was not more than 1200 acres. Moreover, she does not mention that during the 19th century the majority of these estates had passed into the hands of new owners who were not descendants of the old nobility. This fact is important for the formation of the farmers' league.

In the preface, the author appreciates particularly Dr. Charles W. Cole's criticism of the sections dealing with economic matters. Indeed, from the economic point of view the book and its conclusions remain open to some criticism.

As to the discussion on the certificates of identity (*Einfuhscheine*), the author could have found more important sources even in the handbooks she has used. Comparatively little is said on land tenure problems. To a great extent, that is accounted for by the fact that the land tenure problems were dealt with by the States, not by the Reich. On the important conference convoked by the Prussian Minister of Agriculture in May 1894, a report written by Max Sering is to be found in the *Jahrbuch fur Gesetzgebung, Verwaltung und Volkswirtschaft*, 1894.

Notwithstanding such desiderata and some critical reservations, the reviewer readily acknowledges that the author has presented an admirable study which gives much valuable information and stimulation.

C. VON DIETZE

University of Freiburg

Papers Opening the First

WORLD LAND TENURE PROBLEMS CONFERENCE

LAND AND THE FUTURE

WILLARD L. THORP

IT CAN BE SOLVED

CLARENCE J. MCCORMICK

LAND AND INDEPENDENCE: AMERICA'S EXPERIENCE

HENRY G. BENNETT

LAND TENURE AND ECONOMIC DEVELOPMENT

DENNIS A. FITZGERALD

Under the sponsorship of the University of Wisconsin, and with the cooperation of the Technical Cooperation Administration of the Department of State, the Economic Cooperation Administration, and the United States Department of Agriculture, a Conference on World Land Tenure Problems has been in session in Madison, Wisconsin for a period of six weeks, October 8 through November 17, 1951.

Experts on land tenure and leaders in agricultural policy—both governmental leaders as well as research workers and teachers—from nearly forty nations have convened for open discussion, interchange of experiences, and analysis of problems of mutual concern. Among the problems for study are agricultural statistics, population as a factor in tenure problems, availability and productivity of credit, management of public lands, land tenure surveys, the place of cooperatives, experiences in population resettlement, land consolidation procedures, surveys and land title registration, the financing of land redistribution, machinery stations, legal relationships, irrigation development, and comparison of different farm management schemes. Proceedings of the conference will be published and made available for distribution to interested persons.

Among Those Participating

On page 389 is printed a list of the names of 75 persons who have come from 38 foreign countries to participate in this conference. At the date of this printing the conference has 3 more weeks of meetings. Doubtless more participants will join the gathering. In addition to these visitors from other lands many persons representing public and private organizations and institutions in the United States have been in constant attendance. The proceedings will include a more complete listing of participants. For further information write Professor Philip M. Raup, Department of Agricultural Economics, University of Wisconsin, Madison 6, Wisconsin.

Preface

Thoughtful people everywhere—citizens, scholars, statesmen and administrators—have become increasingly concerned in recent years with the problems of land, which have been aggravated by wars, migration and resettlement. The Conference on World Land Tenure Problems is intended to provide a means for the international exchange of ideas and experiences and an opportunity for the participants to think together about constructive ways of dealing with these problems of man's relation to land.

The conference brought together a distinguished group of leaders from forty countries, who have intellectual and professional commitments to the solution of the perplexing problems of land tenure and land use.

Important papers were presented in the opening sessions of the conference by four representatives of the government of the United States. These papers are destined, we believe, to become landmarks in the field of policy, especially the address of Secretary Thorp.

The University of Wisconsin is honored by the presence of this International gathering. It seems particularly appropriate that the opening papers should be published in *Land Economics*, which was founded by a group of devoted teachers and investigators concerned with the very issues now before this conference.

Kenneth H. Parsons

Land and the Future

By WILLARD L. THORP*

IN all probability, there have never before been so many dissatisfied people in the world. This is not because there is more starvation, more pain, or more misery than at other times. The facts are quite to the contrary. The rising discontent is rather because of knowledge—the increased knowledge of how other people live. When people lived in isolated communities, completely ignorant of the world beyond the horizon, they had only local standards of comparison. But today they have information, and misinformation, about the delights of distant green pastures. This becomes the basis of resentment against their lives and their surroundings. The resulting discontent is responsible for much of today's political instability and economic unrest.

The answer lies in large part in further increasing the flow of knowledge. If greater knowledge has contributed to the creation of discontent, it can also be an instrument for dealing with it. The discontent also creates an opportunity. Periods of complacency are never periods of progress. Given a desire for improvement, streams of knowledge can flow back to these people in many countries, and they can benefit from the experience of others who have made greater progress.

In this general context, no one can possibly overstate the importance of the problems which you have come to Madison to consider, those relating to land and the people on the land. You will be talking about two-thirds of the world's population. There are many countries where more than three-fourths of the people are on the land. In no country can their problems and attitudes be disregarded. In many countries, the future will depend in large part on their future. The Conference on World Land Tenure Problems, and each of you individually, can contribute greatly to the development and flow of knowledge so essential to the process of economic and social betterment.

There are tremendous differences in the lives and productivity of the people on the land, throughout the world. Let me describe the kind of situation which presents the greatest problems. Let us consider a farmer who has to support his family of six on the produce of less than two acres. He does not own the land. He rents it from an absentee landlord who takes two-thirds of the crop for rent. He has no security of tenure. He doesn't know how long he can work on this farm. Another tenant may come along next year and offer even higher rent. This farmer has had to borrow money from a professional money-lender. He pays forty percent interest and his debt is bigger now than it was a year ago. He has friends who pay 60 percent interest: one who borrows at 80 percent.

This farmer of ours is tired and discouraged. He has to farm on worn-out soil with the most primitive tools. He can never allow any land to be fallow, and he has never even heard of commercial fertilizer. He uses seed saved from his own crop of the year before. His two acres are divided into three plots, all widely scattered. It takes him almost two hours to go from his home to the nearest plot. That part of his crop which he sells he takes to market on the back of a donkey. And when he gets it to market, he must take whatever price is offered—he has no method of storage. Last year he had nothing to market. He gave all his surplus to the money-lender in partial payment of his interest charges. I need not describe his standard of living—it can hardly be called subsistence.

The problem of this farmer is not that he does not work hard enough, although his energies may be sapped by bad health conditions and malnutrition. As a matter of fact, he works from dawn to dark. His difficulty is that he is enmeshed in an archaic economic and social system. He is the victim of a state of technological ignorance and of the absence of the help which might be provided by capital, equipment, marketing organization and the like.

Some have suggested that the best solution for a country where such conditions prevail, is to disregard the situation of farmers like this, and place emphasis upon industrial development. I do not wish to decry the importance of industrial development, but it is a tragic conclusion to insist that it is the exclusive path to economic betterment. Surely

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the improvement of agriculture must be a prime objective of economic development.

In the development of the United States, agriculture has been one of the strongest contributors. Until 1870, we imported more foodstuffs than we exported. However, our own production expanded rapidly and was the basis for the rapid development of internal trade within the country. In more recent years our exports of foodstuffs have been an important element in our balance of payments. In fact, agriculture has always been a major component in our economic strength.

Today, we have about 5½ million farms in the United States, with a farm population of about 25,000,000 people. The real estate, livestock, machinery, crop inventory, and other financial assets in our agriculture represent a capital accumulation of about $130 billions. The net equity is $115 billions. Total income from agriculture represents almost 10 percent of our national income. In terms, therefore, of jobs, national income, foreign trade, capital accumulation, and even of scientific management and application of modern technology, agriculture is a major element in our economy. Add to this the processing industries which flow out of agriculture—milling, slaughtering, canning, refining and the like—and the role of agriculture is even more impressive.

Land and its related institutions are significant to a country not merely for economic reasons. They are also important in terms of the character of individuals which is developed, which in turn, bears upon the nature of the prevailing political institutions. There can be no doubt but that in the United States the extent of land ownership in the form of small, individually-owned farms has had much to do with strengthening the notions of freedom and democracy. The owner of a farm has a stake in the community. He is concerned with the quality and behavior of his government. He belongs to that great middle-class, those individuals who are relatively independent yet not able to control any important operation, who are so essential in any democracy. It is interesting to note that in the United States most of our so-called progressive political movements have arisen and have had their principal strength in the heart of our farming country.

But we must not limit our assessment of the importance of these problems even to economic and political terms, important as they may be. We must remember that we are not discussing statistical units, or mass phenomena. We are talking about individual human beings and their very real and pressing problems. We cannot disregard poverty and misery, wherever it may be. It is in terms of human values, of the effort to extend personal opportunity and security, that we find the ultimate justification of this Conference and of your untiring efforts.

A general program to alleviate land problems is frequently—though not always—referred to as "land reform." This assembly is called a "Conference on World Land Tenure Problems." The United Nations General Assembly and the Economic and Social Council have used the label "land reform" in their resolutions on the subject. I do not wish to quibble over words, but sometimes labels are misleading, and I wish to sound a note of caution. In some parts of the world, the term "land reform" has been widely used as a cover for the ruthless confiscation of the land by the State and the liquidation of private holdings and often of private holders as well. The propaganda appeal of the label is strong, but such a process is not land reform in any sense. It begins with the promise of land to the farmer. Very quickly it becomes merely the transfer of ownership from private owners to the state. There is no improvement in the status of the worker on the land. Instead, in many instances harsh production quotas and delivery deadlines make the farmer's condition worse—often desperate. A story in *The New York Times* (September 26, 1951) confirms this fact. It tells of desperate Soviet farmers who have resorted to stealing from the collective farms. As a result, new regulations have had to be established requiring that the books and accounts of collective farms be audited six times a year by Communist Party and Government officials.

This is not land reform. Nothing can be called land reform which does not have as its basic and primary concern the improved welfare of the man who works the land. The economic and social institutions surrounding his life on the farm must be improved to bring him a higher standard of living and increased psychological satisfactions.

There are many who think of land reform primarily as redistribution of the land—as the breaking up of large land holdings into small ones. This may be a part of a land

reform program but certainly only one part—and not the most important one at that. In fact, there are certain crop and land conditions where large-scale enterprises may be the most efficient, although there still may be opportunities for economic and social improvement.

The United Nations Economic and Social Council at its recent meeting in Geneva adopted a resolution which indicates quite clearly the broad range of objectives that must be sought in a genuine land reform program. This resolution, which was introduced and strongly supported by the United States, covers efficient size of farm units, security of tenure on the land, the right to ownership of land by the man who works it, clear titles to land and water, adequate credit at reasonable rates, more efficient marketing methods, and equitable taxes on land and its produce. The resolution also suggests the development of farm cooperatives for cultivation, marketing, and processing agricultural products.

These recommendations relate directly to agricultural matters. But there are other problems which do not arise from defects in the agrarian structure itself. These too must be remedied if the strictly agricultural programs are to succeed. The Economic and Social Council recognized this important fact in its resolution. It recommended diversification of economies so that agriculture might be better integrated into general economic development. It recommended the establishment of small-scale and cottage industries. It urged nations to develop literacy programs, to engage in research, and to extend education through extension services. It might well also have noted the relevance of public health programs.

These many elements in a genuine land reform program must of course be spelled out in much greater detail. They will vary in their form and applicability from country to country. However, in one respect they will be similar everywhere—they often will require political action. In a number of countries there are many competent persons who understand the economics of land reform. There are many who know the techniques. But frequently these talents cannot be put to work. The required legislation may be lacking. Necessary funds are not appropriated. Substantial progress often requires political decisions, and there are often strong vested interests which stand in the way. And there is always inertia, the dead hand of custom and tradition.

This problem may have to be solved before considerable economic benefits can be realized. Where this is true, a long and careful educational program may have to be instituted. Widespread public education through discussion may be necessary. The benefits of an improved land system will have to be made clear at every level—national, state and local; in the cities as well as on the farms.

This is a difficult problem, but one not without hope of solution. Each one of us has within our own governmental structure the means of solution through our own established processes. It requires work and imagination, but it can be done. In fact, it must be done.

The United States has been actively engaged in improving the lot of the farmer on the land—land reform, if you will—since the very beginning of its national existence. We recognize, of course, that our land problems have been different from those of many other countries. In many respects they have been less acute. We were most generously endowed with fertile soil. We have never experienced severe population pressure on the land. We have had large areas of public lands to dispose of. But nevertheless we have had land problems to solve. In common with others, we will continue to have problems. This is not a reason for complaint. It is the pattern of any evolving and progressive society.

For ourselves, we in the United States have been firm believers in the farmer-owned family-sized farm. We consider it one of the bulwarks of a healthy agriculture and a vigorous democracy. For this reason we began very early in our national life to make it relatively easy for farmers to purchase government-owned lands in parcels of moderate size. Back as far as 1800 public lands were sold at $2.00 an acre. Later we encouraged the family farmer by selling 80 acres at $1.25 an acre. And this liberal tendency continued through the passage of the Homestead Act of 1862. This Act gave without charge 160 acres to anyone who would reside upon and cultivate the land for five years. As a matter of fact, we made purchase of these lands too easy. Out of this policy arose one of our most difficult problems, the careless and wasteful utilization of land.

It soon became clear to us that *ownership* and *proper size* of farm unit were not in themselves enough for a sound land policy. A happy and prosperous farmer and a healthy agriculture could be assured only with the addition of agricultural education and research, adequate financial and marketing arrangements, good transportation at reasonable rates, a fair tax structure, and so on. In 1862 our Congress passed a law giving public lands to each state to endow and support a college where instruction was to be given in agriculture and the mechanical arts. In 1887 another Act provided funds for the establishment of agricultural experiment stations in the various state colleges. Additional programs have provided funds for distribution among the state agricultural colleges for short-term winter courses, correspondence courses, lectures and publications dealing with land and related problems.

Agricultural education was augmented by the creation of a federal Commissioner of Agriculture to collect and disseminate agricultural information among the people of the United States. This Bureau later became a government department whose head, the Secretary of Agriculture, is a member of the President's Cabinet.

We have had to pass laws to provide credit for the farmer. Some needed money to buy lands, others needed funds to tide them over from one crop to another. Ordinary commercial banks did not meet this need, so in 1916 we established a system of Federal Land Banks. Later we organized the Farm Credit Administration which provides a coordinated system for the extension of both short- and long-term credit to farmers. This was helpful to the established family farmer but it didn't solve the problem of the farm tenant or the hired farm worker who wanted to buy a farm. To encourage this development, we enacted legislation to authorize loans which could be repaid over a period of 40 years. Small farmers can get loans to enlarge their farms or to build them up with livestock and equipment.

These then are some of the things we have done to improve the position of the farmer on the land in the United States. These, together with others such as encouragement and aid to cooperatives and the Interstate Commerce Act to assure fair and non-discriminatory freight rates, constitute our "land reform" program. We still have problems, especially those involving the tenant farmer, the sharecropper, the hired farm worker, and, more recently, the migratory farm worker. We are still struggling with these problems, but even in such difficult fields, substantial progress has been made.

Our interest in solutions to land problems has not only persisted through the years but it has extended to the problems of our neighbors in the world community. This is indicated in part by our strong support last fall of the United Nations General Assembly Resolution on Land Reform and of our active role in promoting the Land Reform Resolution adopted by the Economic and Social Council in Geneva this summer.

It has been further demonstrated in Japan where under the Allied Occupation we encouraged the Japanese Government to initiate and assisted it in the execution of extensive land reform measures. This program, which I understand will be discussed in detail during the course of this Conference, achieved notable changes in a centuries-old, uneconomic and anti-democratic land system. It brought substantial benefits to 3,000,000 Japanese farmers, fifty percent of the total. Only 30 percent of Japanese farmers were full owners of the land which they cultivated before land reform. Today approximately 85 percent are full owners of the land they work. The percentage of land operated by full tenants has been reduced from 46 percent to 12 percent. Absentee ownership has almost completely disappeared. All of this was done in a little more than two years in a thoroughly orderly and democratic way.

There are other examples of active land reform programs in other countries, most of which you will be discussing later in the Conference—India, the Philippines, Italy, Turkey, and many others. We can all learn much from each other's experience. All of them deserve our closest study and friendly encouragement.

I have spoken at some length about the experience of the United States with land problems. I do wish to make it clear, however, that I am not suggesting that the *form* and *structure* of American land institutions and practices provide the solution to the problems of other countries. Certainly forms and structures suitable to the American economy may not be suitable to others. Each nation must find solutions to its own problems within the framework of its own cultural and institutional background. United States experi-

ence will be helpful principally as it can be modified and adapted to other situations.

But while we hold no special brief for American *form and structure*, we do feel a sense of pride in the *motives* and *methods* of land reform as applied by the United States and by other nations of the free world. We feel this because, in both motives and methods, there is a critical difference between land reform as practiced in the free world and what has been improperly called "land reform" in the Soviet-dominated world. With respect to the motives, we seek the economic and social welfare of the farmer, rather than the consolidation of the power of the State. With respect to method, we have followed an orderly constitutional process rather than rely upon the confiscation of property and the liquidation of land owners, with all its attendant hardship. The results of our motives and methods have been just as revolutionary, but they have achieved the goal of genuine improvement in a thoroughly practical and democratic way.

The report on *Land Reform*, by the United Nations Secretary General, published in June of this year, is an important new document in this field. It reveals land problems of almost frightening proportions. It shows the terrific job ahead of us. In another sense, however, the report presents a picture of promise. It records that a large number of countries have recognized the importance of their land problems and have set about to solve them. It reveals what amounts to a world-wide movement to improve the life and output of the farmer on the land.

The important question is: how can this movement toward land reform be encouraged? Again there must be national answers. It is basically the job for the people of each nation. They must want it. They must see the importance of land problems to their own national development. They must become aware of the promise which land reform holds for their future. They must define their own goals and shape their programs in the light of their own institutional backgrounds. They must set about the task of training their own technicians. They must create a political environment favorable to the development of an improved land system.

It is only upon this foundation that the encouragement and assistance of others can be built. The United Nations and its agencies can render great assistance. The FAO, UNESCO, the ILO—each within its own field of special competence—can help by accumulating technical "know-how" and by making it available to interested nations. They should be requested to do so. The United Nations and its agencies can and should be urged to arrange their meetings to assure the full exchange of land experience among nations.

Great good and much encouragement can come from non-governmental conferences like this one. I can visualize regional conferences of this kind being organized in the future—one in Asia, one in Latin America, another in Europe, still another in the Middle East. Wider participation throughout the area and a sharper focus on the problems discussed, would provide mutual assistance of immense value.

The United States has no special responsibility for and no unique competence in solving land problems the world over. Solutions to these problems do not lie in the heads or hands or pockets of any one nation. We have, however, encouraged and supported the land reform programs of other nations. We will continue that encouragement and support. You may be sure that we will continue, as we have in the past, to support land reforms through international organizations such as the General Assembly, the Economic and Social Council, and the Food and Agriculture Organization.

We want to do more than this to encourage genuine land reform. In the past the United States Government has provided technical aid in connection with problems of economic and social organization, as well as the technological problems involved in land tenure and related fields. We have provided both technical and financial assistance to drain, irrigate and otherwise reclaim lands not under cultivation. We have provided technical and financial aid to industrialization and other worthy projects which have also served the purpose of providing employment for surplus farm populations. We will continue to do these things. We will do whatever else we can appropriately do to encourage and assist programs which show promise of bringing lasting benefits to farm people and of enhancing the role of agriculture in the national economy.

I have great hopes for this conference, as I am sure each of you have. We do not, of course, expect final solutions to the problems or even to segments of problems. Land prob-

lems arise only in part from the land itself. They arise more from the relationship of people to the land, the dependence of people upon the land and their attitudes toward it. As one goal is reached or approached, another goal emerges. The solution to one problem sows the seed of still other problems. The continuous quest for a better life itself creates fresh problems.

Likewise it is true that the solution of one problem contributes to the solution of the next. Through an increase in the productivity of the land under cultivation, the whole economy is rendered stronger and more prosperous, and more attention can be paid to improving agriculture. More food often means stronger and healthier farm workers who can then produce more food. Improved agricultural conditions mean more purchasing power and expanded opportunities for industrial development. In short, no economy can be stronger than its parts, and its parts can and will weaken or reinforce each other.

You have undertaken to explore a problem of tremendous significance. Undoubtedly it is a major contributor to the unrest so prevalent in the world today. The problem is difficult and complex. The stakes are high. The rewards of a successful attack upon the problem are immeasurable. They will come in terms of a happier and more humane life, a more efficient economy, a more vigorous democracy, and a stable and lasting peace. On behalf of my Government I welcome you to Madison and am happy to extend to you our very best wishes for a successful and fruitful conference.

"This Conference will be a demonstration of international cooperation, and a lesson in the value of the peaceable approach to the solution of a common problem. It should prove a source of encouragement for those who are working—in the laboratories, in the fields, and at the conferences—toward that end."

President of the University of Wisconsin, Edwin B. Fred

It Can Be Solved

By CLARENCE J. McCORMICK*

THE purpose behind this Conference may be summed up in something that was said by the ancient Roman philosopher, Seneca, about two thousand years ago, "A hungry people," he said, "listens not to reason, nor cares for justice, nor is he bent by any prayers." It is really in recognition of that fundamental fact that we who represent many nations are here today.

While I know that we are here to explore a general world problem, I hope that to the greatest extent possible the discussions of this Conference will be concrete in nature, rather than overly general. When concrete problems confront us—and surely the problems of food and land are concrete—we can deal with them best by talking in specific terms.

That is one of *my* aims now. Many of my remarks will concern agriculture and land tenure as they exist in the United States today. I am going to try to show where the United States stands today in respect to agriculture and land tenure—as well as the road we traveled to reach our present position—and what we are trying to do about the problems that loom ahead of us.

But I want to stress one thing above all—one thought that is fundamental in everything I am going to say here. I am calling it to your attention, underlining it in this way, because, unless this one point is made clear, the whole meaning of the Conference may be misunderstood. This thought that I want to stress is that I personally, and the other speakers from this country as well, have no intention whatsoever of trying to tell the representatives of any other country how to solve their problems. We are not so presumptuous. We have plenty to keep us occupied tending to our own business. But, at the same time, we are more than ready to cooperate with any of you in exchanging ideas, talking over methods, outlining spheres of action and extending any other help that is appropriate.

As Mr. Thorp, the Assistant Secretary for Economic Affairs, has indicated, land tenure and land reform are part of the world problem of food. The world problem of food in turn is tied up with peace, with security, with human dignity. Hunger and peace are poles apart—so much so that peace can have only an uncertain existence so long as the world is part well-fed and part starved. I know that this is the kind of topic that lends itself to fine words, and I am not given to fine words. But I am sure that the greatest economic problem in the world today is the scarcity of food. I believe the great hope of the world is the knowledge that something *can be done*, not tomorrow, but *now*, to increase food supplies and lessen world hunger.

I hope that all of you share my feelings about the importance of this conference—about the fact that we are approaching a point in human affairs that has been the aim of mankind through the centuries. We are approaching a point at which, by sharing skill and knowledge, equipment and capital, by making better use of the world's land resources, enough food can be produced to feed the world's people adequately.

I do not think that is being over-optimistic. Scientists in the FAO, in our own Department of Agriculture, and scientists in other organizations and other countries agree that there is enough "know-how" to produce much, much more food than is now being produced in the world. Yet we all recognize that it is one thing to have the theoretical knowledge of how to produce, and quite another thing to apply it and make production a reality. What takes place at this Conference should have a tremendous effect on the world's ability, eventually, to translate knowledge of production into actual food and fiber.

Throughout the records of human history we see a continual hungering of mankind for food and the land resources and ownership that would provide food. Primitive peoples, even those who live by hunting or those who are a step higher in the economic ladder and who follow a pastoral life, generally have their well-defined territories in which they hunt or in which they move with their flocks and herds. We know how the Jewish people of Biblical times longed for the promised land, the land of milk and honey.

Land tenure problems have existed in every age and among every people. But today the problems that exist are probably more acute than ever before because today

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people in the disadvantaged regions know tbeter than they ever did before that such problems as hunger, exorbitant rentals and rates of interest, huge land holdings that are poorly used, do not have to continue. They are not laws of nature. They can be changed —and the people *want* to change them. Three-fourths of the people of the world get their living by tilling the land or grazing it with livestock. Consequently, their hope for a rising standard of living is centered in a more productive agriculture.

But the obvious fact is that agricultural institutions in many countries raise a barrier to higher farm output and higher standards of living. In this country we know something about this problem through experience, and few would contend that we have completely licked it. Now it is significant that a century and a half ago, most of the economic problems of the United States were also rural problems —much the same kind of problems, in a broad sense, as farmers in many parts of the world are confronted with today. Our agriculture was on a largely self-sufficing basis. In other words, production was largely for home use rather than for a commercial market. It was relatively unmechanized. There were many hand tools in use; but the plows, harrows, and wooden-wheeled wagons of the period were very crude.

However, there is one point of very considerable difference. Whereas in many areas os the world today a very large proportion of farmers do not own the land they work, in this country we have built our agriculture on individual ownership of the land. Our agricultural pattern is the family farm pattern—a family living on the farm, making a home there, getting most or all of its income from the farm, doing most of the work on the farm, combining in the farm both home and business. The men who shaped the early governmental structures of our Nation had strong feelings about this kind of agricultural pattern. Thomas Jefferson, Andrew Jackson, Daniel Webster, Thomas Hart Benton, Abraham Lincoln—they all thought it necessary to democratic strength that the man who tills the land ought to own it, ought to have security in the possession of the land. From the early beginnings of the Nation, public land was made available to farmers on very liberal terms. In the mid-part of the Nineteenth Century, the public lands of the West were to opened upsettlement, so that farmers could get title to 160 acres of land just by claiming it and living and working on it for a few years. Thus, the great majority of farms in the United States have from the beginning been owned by the families who operated them.

Farmers were aided in other ways. There were land-grant colleges and experiment stations to carry on research and provide information on good farming methods. Means for gathering useful statistical information that would be helpful to farmers were set up. Thirty-five years ago the federal land bank system was started to establish a farm mortgage credit system.

For a long time, this country proceeded on the apparent assumption that outside of ownership of the land by the individual operating farmer not much else was needed in the way of land tenure policy. Gradually, it became evident that ownership alone was not enough. And by the time the early 1930's arrived, it was extremely clear that unless governmental steps were taken to deal with the farm problems that had arisen, even the pattern of individual operator-ownership was in grave danger.

At that time, the Nation's farmers were in a very serious economic plight. Farmers had lost much of their foreign market. They were producing more of some commodities than they could sell at fair prices. They were heavily in debt. The total farm mortgage debt in 1930 was estimated at more than 20 percent of the value of all farms. Whereas in the 1800's about three farms out of four had been owner-operated, in 1930 about 42 percent were operated by tenants. There were nearly 800,000 share-croppers in our farm economy. We were suddenly awakened to the fact that a small farmer who was without money or credit resources—even though he owned his farm—was just about as insecure on the land as was the tenant.

We were suddenly made aware also that a condition of widespread ownership did not in itself mean that the land would be properly used and safeguarded against erosion and depletion of organic matter. Not only did the average farmer need more information on *how* to take care of the land; he needed, above all, a fair price for his products so he would not be forced to mine the soil to keep his family alive. We realized, too, that a great many farm families were not sharing in the advances that city people, at least the

great majority of them, had come to accept as commonplace.

In the past two decades the United States has made a determined effort to strengthen its agriculture on many fronts. Essentially, what this country has been seeking is the preservation of human resources on the land as well as the improvement of the land itself. There were a number of essential actions that had to be taken. Something had to be done to bring production into reasonable balance with demand. This problem was attacked by means of the Agricultural Adjustment Acts of 1933, 1938, and later related legislation. These measures provided not only for production adjustment, for marketing limitations that farmers could impose on themselves by a two-thirds vote, and for price supports: under them, there was established also a system of county and community farmer committees, elected by the farmers. These committees give American farmers a more direct voice in farm policy and its application.

There was a need for more adequate credit, both long-term and short-term, to enable farmers to buy farms, or to enlarge them, or to get better equipment. This has been provided through the Farm Credit Administration and the Farmers Home Administration and the agencies which preceded it. The special purpose of FHA and its preceding agencies was to provide credit for small farmers, tenants and others who could not get credit through other channels.

There was a need for soil conservation. In 1935, Congress set up a Soil Conservation Service within the Department of Agriculture to administer a long-time program to combat erosion and conserve land and water resources. In 1936, Congress passed the Soil Conservation and Domestic Allotment Act which provided financial assistance to farmers in carrying out approved soil and water conservation practices.

There was a need to bring electric power to rural areas. In 1935 only about 11 percent of the Nation's farms had electric power line service. In 1935 the Rural Electrification Administration came into existence to make loans to cooperatives for providing power to rural areas. Last year a rural telephone loan program was established to be administered by REA.

There was a need for an expanded research program. Under the Bankhead-Jones Act of 1935, Congress took steps to point agricultural research more directly toward practical farm problems. In 1938, four great regional research laboratories were authorized. In 1946, the Research and Marketing Act gave still more emphasis to production and distribution research.

There were a number of other programs also: insurance of crops against loss caused by drought, flood, and other natural damage; a school lunch program; flood control projects; an expansion of price supports; and a farm housing loan program.

There is no time now to describe the operations of our farm programs in detail. But I would like to point out some of their results. Whereas in the early 1930's more than 42 percent of the Nation's farms were tenant-operated, only about one-fourth of our farms are operated by tenants today. This change has been brought about by many factors, but the credit programs have certainly played a big part.

Agricultural credit agencies supervised in the Farm Credit Administration have made more than 5 million loans totalling roughly 18 billion dollars in the last 17 years. As of June 30, 1950, these agencies currently had outstanding some 622,000 loans totalling a little less than 2 billion dollars. The Federal Land Banks have gradually retired their government capital and now are completely farmer-owned. The production credit associations are making rapid strides in the same direction. A large number of these also are now wholly member-owned.

About two million small farmers have been helped by the loan programs under the Farmers Home Administration. But the real test is not found in the number of loans or repayments. The primary objective of this supervised credit is to help family-type farmers to better living through successful farming. National surveys have shown large gains in these borrowers' incomes, operating capital, and net worth.

I have mentioned that, in the 1930's before the Rural Electrification program began, only about one-tenth of the Nation's farms had power-line electric service. Today approximately 85 percent of the farms have electricity. This has been a big factor in increasing farm efficiency as more and more uses are found for electricity in farm production. It has also meant that farm homes can now have the convenience and comforts that electric power makes possible. I want to point out here that the repayment record of these lending programs is excellent. Pay-

ments of rural electrification loans are almost 100 percent on schedule. A substantial proportion of the loans are being paid up ahead of the due dates.

A stupendous job is being done in soil conservation. Nearly one and a quarter billion acres are now covered in the more than 2,300 soil conservation districts which draw upon technical help of the Soil Conservation Service and other Department of Agriculture facilities. Meanwhile, about 50 percent of all farms cooperated in the agricultural conservation program in 1950. The savings in land resources are beyond calculation.

The Nation has had impressive returns on its agricultural research. You all know the effect of hybrid corn. The additional return that is due to hybrid corn has been estimated at about one billion dollars a year. The research costs amounted to about 10 *million* dollars. Disease-resistant cereals developed in recent years add about half a billion dollars each year to farm income from cereal crops. Phenothiazine, a remedy for internal parasites of livestock, saves the Nation about ten *million* dollars a year in livestock losses. The research to develop it cost 10 *thousand* dollars! I could cite a great many other research achievements. All of these results depend not only on research and technical knowledge in the laboratories but on dissemination of *information*, on *education* of the farm people so that they will know about these advances and will make use of them.

Let me sum up the results of the past few decades of agricultural progress in this country by saying that they have helped bring about a big improvement in rural living standards. Farm families have made good use of the economic advantages of recent years. Many of them have put modern conveniences in their homes—for kitchens, for laundry, for living room, for bath. They have improved their schools. They are making farming communities more attractive and inviting.

All this in turn helps to make farm people better informed citizens, increasingly awake to national and world events. It makes them strong in their love of Democracy. More than this, the increased purchasing power of our farm people has been passed on to workers and business and professional people in the cities and has increased their standard of living.

One of the most vital effects of the farm programs, however, has been the part it has played in increasing the productivity of our agriculture. Farmers in the United States have been producing about two-fifths more food and fiber than they did in the prewar 1935-39 period. This year, because of the need for still further increases in production, we expect a new all-time record output.

Our agriculture is producing at this very high level with a considerably smaller working force and not much more acreage under cultivation than we had in prewar. Actually less than one-sixth of our population is now on farms and only one working person out of eight is employed in agriculture. This is a fact that is full of meaning in view of the manpower and energies that are thus released, whether for defense or for peacetime production.

We are proud of this progress, and I think justly so. It has been a test of the ability of a free people to develop constructive programs to restore their land and their agriculture to health, and to maintain them in a healthy condition. Yet we know that all the programs we have do not serve our family farm agriculture as effectively as we should like them to. So we are on the lookout for ways to improve them. For several months now we have had in progress a family farm policy review. We want to find out how well our programs are now serving the needs of our family farms. We know that these family farms are the backbone of our way of life. We know that the family farms can give us most of the production increases we need now and will need in the years ahead.

In cooperation with farm organizations, with the land-grant colleges, with church and civic groups and, most of all, in cooperation with individual farmers all over the country, we have stimulated widespread discussion of present farm programs and activities. We want the people who are most interested—the taxpayers, the consumers, and the farmers—to speak up plainly and say where the programs are doing a good job—where they are falling short—and what improvements they feel should be made.

You will note that we are asking not for compliments—we want criticism and—most of all—constructive suggestions.

There are plenty of problems still to be solved in this country. Despite the progress of recent years, farmers as a group are not

yet sharing fully in the national income and the material advantages that are available to city people as a group. There are still many needs to be met in conservation, research, price protection, electrification, and credit.

As we look to the future we expect our population to continue its growth. In 1960, we may have a population of 170 millions or more. In 1975 we may have about 200 millions. We may also have heavy demand from abroad. That means we must continue to increase farming efficiency. We must use more fertilizer and use it wisely. We will need more farm machinery, better buildings, less waste, improved control of insects and diseases, new varieties of plants and seeds, and better methods of distribution.

I have been outlining for you some of the experiences of the United States in land tenure and agricultural policy. I have not done this in a spirit of boastfulness; nor have I done it because of any illusions that our pattern will necessarily fit the needs of any other country. I have made my remarks rather in the belief that every people can profit from the problems and experiences of others.

Our experience in this country indicates that a good system of land tenure depends upon many conditions—not on ownership alone, not just on fair dealing between owners and tenants, not on government policies alone. A good system of land tenure depends upon the productivity of farms, upon good markets and fair prices, education, credit, farm organizations, farm cooperatives, and governmental institutions that are responsive to the will of the people. A land tenure system to be satisfactory to the people must reflect a condition of freedom. When reforms are needed, freedom itself is likely to produce them.

Just as charity covers a multitude of sins, so land policy covers a multitude of things. That is why I hesitate to use the phrase "land reform." It is not only because the Soviets and their satellites have given that name an unfortunate meaning—a meaning that begins with confiscation and division of large holdings, and ends in collectivization—so that the people, who expected better things, find out that the last stage of Soviet land reform is worse than the original system.

Such misuse of the term, land reform, is bad enough, but what may be even worse in the long run is the notion that land reform means only changing the owners of the land. If you have time, some of you might want to consider at this Conference whether there is a new name to take the place of land reform.

The point I am making, in any event, is that good land policy eventually requires improvement in social and economic conditions. It implies a good tax system, a good credit system; it implies cooperatives and cooperation on a broad front, not only among farmers, but among the people as a whole.

I would like to end my discussion on two notes. The first is a note of encouragement. The problem of land, which in the last analysis is the problem of food, *can* be solved. There are a great many indications that this is the plain truth. The progress that has been made in this country in increasing agricultural production may be matched, or even exceeded by world progress in the years ahead. I understand that over a large area of Europe farm production since 1947 has increased by about 25 percent. I have seen, on my brief trip to Europe, some of the advances that are being made in consolidating scattered land holdings and the interest in the problem of land tenure. Our Secretary of Agriculture visited in Europe last summer, and he came home very much impressed with the methodical efforts being made to pursue the problems of agricultural rehabilitation and expansion of production.

Many of us know what has taken place in Japan since the war ended. We know that much progress was being made in Korea before the invasion in June 1950. That's the first of my two closing notes—progress *can* be made—progress *is* being made—progress *will* be made, I am sure, if we set our minds to it.

The second note is that we in the United States are not only willing to help—*we want to help*. We supported vigorously the resolution on land reform adopted by the General Assembly of the United Nations last November. We also advocated that land problems in trust territories be studied by a committee of the Trusteeship Council.

The Secretary of Agriculture, still more recently, asked that greater attention be given land tenure conditions in the long-term program of the Food and Agriculture Organization.

These actions indicate our earnest wish to cooperate in lessening land tenure problems. I hope that at this Conference there will be much discussion as to just what a nation

like the United States can do to help. We have welcomed many agricultural, civic, and government leaders here from abroad. They have studied our methods. Not all of our methods are suited to other nations, but you are welcome to any help that can come from that source.

Within limits which will be determined by the course of the world in the years ahead, we may be able to extend credit to other nations. The extent to which we may do so is determined by the Congress. In our own Nation, we have had programs of credit by which farmers who do not own their land may come to own it. Some have suggested we underwrite similar programs in other nations. If we were to do so, there would still be a question as how best to do it. For example, should the United States isolate her credit, or lend money in conjunction with other nations through existing or new agencies. And if such credit is provided, what about the many other things we have come to learn are involved in land tenure reforms along with financing—what should be done about encouraging farm co-ops, about more extension education, about farm management guidance on the borrower's farms? Perhaps this conference can contribute the answers to some of those questions.

As you know, I am an administrative official of this country. I do not make the laws. Therefore, I cannot commit the Nation to this course or that. But I know I speak for the people when I say that we are interested in the progress of freedom and human dignity throughout the world. We will welcome your searching studies of the ways in which the problems of land tenure may be solved. And I promise you the full support of the United States Department of Agriculture.

"You certainly are people of great courage, of great patience and of great fortitude to be willing to face the extraordinary magnitude and complexity of problems of land use and land tenure as they exist throughout the world. I salute you for that courage."

Governor of the State of Wisconsin, Walter M. Kohler

Land and Independence—American's Experience

By HENRY G. BENNETT*

IT is a pleasure and an honor to address this international gathering—a pleasure because I have been privileged to visit twenty-nine of the countries represented here today, and I can now welcome you to mine. It is an honor to take part in a conference which serves the cause of human welfare and world peace.

We are here to consider problems of land tenure, which affect the lives of almost every man, woman and child on this earth.

The Technical Cooperation Administration, which I head in the Department of State, carries on the Point 4 Program. This is the program which President Truman first proposed in his Inaugural Address of January 1949. This is the program through which the United States is now sharing the services of its technicians and specialists with other countries in a cooperative effort to help other peoples increase production, improve health, promote education, and create a decent life for themselves. Because three-fourths or more of the people in the country concerned live on the land, we and they, together, are concentrating our efforts in the Point 4 Program on improving the economic and social conditions of rural life.

We are putting major emphasis on agriculture because we know it is fundamental. The land is the primary source of all material life on this earth. From it we derive our sustenance and our wealth. Most wealth comes from earth and rock in the form either of minerals, coal, petroleum and the like, or of vegetable matter. The few inches of top soil are the most prolific and universal source of wealth that we have. Agriculture is the world's largest and most indispensable business. So we believe the Point 4 Program must be concerned first and foremost with agriculture, and especially with man's ability to produce more food.

The Point 4 Program is usually thought of in terms of demonstrating and teaching better techniques and practices. Indeed we believe this is the way we Americans can make our greatest contribution. But techniques and methods are only means to an end. Our purpose is to help dignify agriculture so that the millions of people who live on and work the land will not only produce abundantly but enjoy the fruits of their labor as well.

We recognize that techniques of production and distribution are not the only factors that shape the relationship of the farmer to the land and to the society of which he is a part. We recognize the vital importance of the legal, economic and social conditions under which the farmer uses the land he tills. That is why we in the Point 4 Program have joined in sponsoring this conference on world land tenure problems. We are grateful to the University of Wisconsin for making it possible to meet here in these pleasant and hospitable surroundings.

I should like to use this occasion to discuss with you some of our own experiences with land tenure problems in the United States. I fully realize the danger of implied comparisons. Much of our experience with land problems cannot, and should not, be considered applicable in *your* countries. Happily no two peoples have the same history or geography. In diversity we find the riches and glory of our free society of nations.

In the early years of the history of my country, the major challenge was to settle an almost empty continent, to tame a wilderness and to clear and cultivate vast tracts of land. Ours was just the reverse of the problem in many other countries, where population presses on available land resources. The family-size farm under conditions prevailing in the United States may be 160 acres or more; in other countries it may be three, five or fifty acres.

However, there are certain general principles that can be adapted and applied to different situations. Certainly there is much that we can learn from each other as we exchange views and experiences at this conference. So in discussing some of our experiences with land tenure problems in the United States, I do not intend to imply that our land policies and practices are perfect or ideal.

As you travel around this country—and I hope you will have a chance to do so—you will observe the many imperfections in our own land policies. I hope you will observe, also, that we are striving to correct them. To me, the most hopeful thing about our

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land policy in the United States is that it is continuously developing and improving. Our history is, in large part, the story of a continuing land reform movement. Progress has been faster and more perceptible at some times than at others. But over the 175 years of our independent nationhood, there has been a sense of life and forward movement. This sense of progress has characterized the growth of our nation.

The thinking of our political philosophers has both shaped and reflected our history at different stages. The primarily agrarian nature of society at the time of the founding of the Republic is reflected in the thinking of our great liberal President, Thomas Jefferson, who declared that "the small landholders are the most precious part of a state." Today, that opinion might be contested by labor, industry and other groups.

About a hundred years later, in a time of increasing industrialization and pressure of population on the land in the older states, another philosopher, Henry George, championed the "single tax" on land. George declared that:

> "What is necessary for the use of land is not its private ownership, but the security of improvements. It is not necessary to say to a man 'this land is yours,' in order to induce him to cultivate or improve it. It is only necessary to say to him, 'whatever your labor or capital produces on this land shall be yours.' "

The touchstone of our attitude toward the land, however, has remained constant. You will find it expressed in our Declaration of Independence, which asserts that man is endowed with certain inalienable rights, "that among these are life, liberty and the pursuit of happiness." To translate those rights—in which we deeply believe—into reality, is the basic purpose of our land policy, and of all our national policies. We have struggled to create and to maintain a land tenure system that would best serve man's enjoyment of "life, liberty and the pursuit of happiness," the fundamental rights to which we believe he is entitled.

Today many people think of land reform exclusively in terms of land ownership. The ideal situation, of course, would be for every man to own the land he tills. I have no quarrel with that ideal. I think all of us would like to see our societies come as close as possible to realizing that ideal. But progress toward an ideal must recognize the limitations of the practical. We must go forward one step at a time and it is not practical at this time in any country, including the United States, for every farmer to own the land he works.

What is practical and attainable for every farmer, either as owner or as tenant, is the opportunity to work the land under conditions that provide him with *the incentive and the means* to farm efficiently, to conserve and improve the soil, and to obtain a fair share of the fruits of his labor for himself and his family. I believe this is a practical objective. I am convinced that the means of reaching it are varied and flexible enough to be applied in all countries and under all conditions.

It seems to me, then, that there are three essential principles that underlie a just and equitable land system. First, the farmer must be able to own land or to use the land he tills under fair conditions and terms of tenure. Second, the farmer must have access to credit on reasonable terms, to enable him to farm efficiently whether as owner or tenant. Third, he must have access to the knowledge and techniques that will make his efforts productive and profitable to him and to society.

These are the goals toward which we have been struggling in the United States, with varying success. These are the goals toward which we still are striving in the evolution of our national land policy. What have we done and achieved in relation to these basic principles?

The hunger for land, which like the yearning for freedom, is universal, was one of the strongest motives in the settlement of North America. The restlessness of an increasing number of families without land was one of the factors that led to the American Revolution. The colonies had inherited the land laws of the mother country. Large holdings passed from father to first son and vast estates were kept intact by entailment. The manorial system persisted until the colonies won their independence. Individual colonists of poor or moderate means found it hard to buy land. Among the first results of the Revolution was the confiscation of large Royalist estates. Feudalistic quitrents were abolished and laws that protected large estates were repealed. This sharp break with the past enabled the young nation to create a new legal framework for land ownership. Men who served in the Revolutionary armies were offered free land. In fact, the practice

of helping our war veterans to start life again as farmers has persisted to this day. In 1785, even before the adoption of our present Constitution, Congress passed laws providing for the sale of land to new settlers in the region west of the Appalachian mountains. The price per acre was low but many settlers found it hard to make the first cash payment. They demanded cheaper land and more liberal terms. So the laws were changed to make it easier to own land. My own grandfather held land under an act signed by President Andrew Jackson. And on that land I was born.

The cry for cheap land grew until it became a cry for free land. And eventually free land came. The year 1862 was a landmark in American agriculture. In the midst of a terrible Civil War which threatened to destroy our nation, President Lincoln signed three great agricultural laws. The first of these laws was a new and more liberal Homestead Act. It gave any citizen, or immigrant planning to become a citizen, clear title to 160 acres of public land, provided he settled on it and worked it for five years.

The second law, the Morrill Act, offered each state 30,000 acres of public lands for each Senator or Representative it had in Congress. The proceeds from the land were to be used to establish and maintain colleges for the teaching of agricultural and mechanical arts. Thus education came to agriculture, and thus began our great land-grant colleges, of which the University of Wisconsin is an outstanding example.

The third law signed by President Lincoln established a Department of Agriculture as an independent agency of the Federal Government.

With progress in the laws affecting agriculture, came remarkable changes on the farm itself. In the early days of our Republic, the American farmer developed his farm mainly with his own strength and resourcefulness. He cut down the virgin forest with an axe. He turned the soil with a rude wooden plow drawn by a horse or an ox. He might use a crude harrow made of logs with wooden spikes. He sowed by broadcasting seed by hand from a sack slung over his shoulder, or stooped to plant seeds in hills. If he cultivated, it was with a hoe. He harvested with a sickle or a scythe, threshed with a flail, and winnowed by tossing straw before the wind.

Henry Adams, one of our historians, was moved to remark that "the Saxon farmers of the eighth century enjoyed most of the comforts known to American farmers of the eighteenth."

But as waves of new settlers pushed the frontier westward, the farmer developed better tools and practices, became a producer for market instead of just for home consumption. One basic improvement was to replace the unwieldy wooden plow of the colonial period with the steel turning plow. It was still animal-drawn, but it raised the farmer's efficiency and was within his means to buy.

With the invention of a practical reaper at the close of the 1840's came the beginning of the machine age in American agriculture. Harvesting is the most time-consuming part of grain production, and often the crop would be damaged by weather before the harvesting could be completed. For that reason, the reaper is sometimes called the greatest invention of the early machine age in agriculture.

The reaper, which later became a binder and a thresher as well, is mainly responsible for cutting the time it took to plant, grow, harvest and thresh an acre of wheat from 60 man-hours in the 19th to four man-hours in the 20th century.

It has taken me only a minute to describe something that took a hundred years to accomplish—the mechanization of American agriculture which is still far from complete today. We are apt to forget that it came step by step—a long, slow and arduous progress, accompanied by a long, slow process of education, both theoretical and practical. Today, other societies are trying to telescope this progress, to jump a century in a generation. I believe it can and will be done, but only step by step, and only with a prodigious effort to educate farm men and women.

The period between 1862 and 1900 saw one of the greatest migrations in human history. More than 14 million people came to the United States from other countries. Free land and the pressure of population in our eastern states sent a wave of humanity rolling across the continent to people the area of the Great Plains. One of the most exciting episodes of the land rush happened in my home state of Oklahoma. On April 22, 1889, a large section of Oklahoma was opened to homesteaders. Thousands of prospective

farm owners crowded to the border. As a signal was given at noon, they charged across the line like an invading army to claim the land they wanted!

It was in that period and in the Great Plains area that a grievous mistake was made in land policy—a mistake that did not become clearly apparent until years later. It had tragic consequences. That mistake has been pointed out by Professor Benjamin H. Hibbard of this very University. Professor Hibbard, one of the leading authorities on our public land policies, tells us that the Homestead Act was unsound—at least as applied to the Great Plains area. The land unit of the Homestead Act was 160 acres—a unit considered the proper "family-size" farm. But the Great Plains region has an average annual rainfall of 10 to 18 inches. Droughts lasting for a season or several years are not uncommon. These conditions called for special kinds of farming—either dry land farming, cattle grazing or intensive farming with the aid of irrigation. But 160 acres was too small a tract for dry farming or grazing and too large for irrigated farming. Widespread erosion and the dust storms of the 1930's were part of the price the nation paid and is still paying for these mistakes.

Aside from this basic error, the law was sometimes badly administered. It is significant that the platform of the Republican Party in 1872 included the statement: "We are opposed to further grants of the public lands to corporations and monopolies, and demand that the national domain be set apart for free homes for the people." And the platform of the Democratic Party the same year said the same thing.

Mistakes in policy helped to bring on a farm depression. Since the Civil War, farm prices had been falling while the prices of other things were rising. The American farmer was competing with new producers in Russia, Australia, Argentina and Canada. About 1895 American farm prices fell to disastrous levels. Many farmers began to mortgage or sell their farms. In 1880, when free land was plentiful, three out of every four farmers were owners or part owners of the land they worked. For the first 30 years after 1900, ownership declined and tenancy increased until only about half the farmers owned their land.

The people and the Government of the United States were discovering that something more than the provision of free land was needed to create a productive and prosperous agriculture.

Even during this period of general decline, however, some progress was made. In 1887 Congress passed the Hatch Act. It provided federal aid to the states for experimentation and research in agriculture, to be conducted by the land-grant colleges. The creation of experiment stations was a great forward step—almost as important as the land-grant colleges themselves.

In 1902 Congress passed the first Reclamation Act, which allowed the federal government to put money into irrigation. In 1914 came the Smith-Lever Act establishing our national farm extension service.

The extension service in America is personified by the county agent. He is the man who takes scientific knowledge from the land-grant college classroom and experiment station direct to the farmer on the land. The county agent works side by side with the farmer, demonstrating the best seeds, the best in new livestock practices, the best in new equipment and new techniques. The Smith-Lever Act has put a farm demonstration agent within reach of every rural county. These agents are the key to putting scientific agriculture into practice and making farm credit effective. They show the farmer how to get the most out of his money and his skill.

In 1917 Congress gave the federal government power to support agricultural and vocational education in secondary schools. Since then, American boys and girls have been able to get good training in agriculture even if they are not able to go to college.

I have said little so far about farm credit. Our government was slow in waking up to its importance. The Federal Farm Loan Act of 1916 gave the farmer his first reliable source of credit at rates less than ten per cent. Under that Act, farmers could obtain loans for 5 to 40 years, at six percent interest or less, with land, buildings or farm improvements as security. In 1923, short-term credit was made available. The Intermediate Credit Act provided for loans for six months to three years, with crops and livestock as security.

These measures were basic to our long-range agricultural program. But except during the sharp, brief rise in farm prices during the first World War, the American farmer was sliding down the slippery slope toward de-

pression. By 1929—when the great industrial and financial crash came—he was already in a depression. The farm population, one-quarter of the nation, was earning only seven percent of the national income. Between 1927 and 1932, ten percent of our farms were forfeited because of mortgages.

At that low point in our fortunes, we began a drastic overhauling of our agricultural system, including farm credit. The Farm Credit Administration was established in 1933 as the basis of our farm credit structure. It remains so today. I will outline its three main features.

First, farmers can get credit for a number of purposes. A farmer can borrow to pay off other debts, buy land or improve his land and get equipment. He can get short-term, intermediate and long-term loans at low interest rates.

Second, farmers can get technical advice they need to operate their farms efficiently. This combination of easy credit and technical advice is what we call "supervised credit." Along with the loan, the farmer receives help in planning to spend it wisely and to repay it systematically out of increased earnings.

Third, the credit program uses private capital through public institutions. The government derives part of the capital for these loans by selling government securities to banks, insurance companies or individual investors.

Another agency of the Department of Agriculture, the Farmers Home Administration, provides supervised credit for poor farm families unable to get help from any other source. These families get very long-term loans at very low interest, and pay them back in small installments. Trained agents work closely with the borrowers in planning and carrying out their farm improvements. Thousands of small farmers, many of whom had been tenants all their lives, have become prosperous farm owners with this help.

I spoke earlier of the tragic consequences of plowing up the dry lands of the Great Plains. You have heard of the Dust Bowl of the 1930's. You probably have seen moving pictures of it. I lived through the Dust Bowl —although sometimes I doubted that I would. I have been in dust storms that shut out the sun at midday and made it almost impossible to breathe. I never want to go through that experience again. Neither does our nation—and we do not intend to.

A few thoughtful Americans began years ago to warn us to conserve our soil and water —our most precious natural assets. But we did not listen to them soon enough. Not until our top soil began to blow away and take the livelihood of many farmers with it did we really get busy on soil conservation.

The Soil Conservation Service was established in the Department of Agriculture in 1935. In five years, one-fourth of the nation's farmers were doing something to stop erosion and to conserve their soil. This program is growing. We are determined at last to stop the abuse of our soil and save our land to pass on to our children.

So far I have been talking mainly about the land, the credit and the services that our government has provided for farmers. From what I have said you might conclude that in recent years, at least, American farmers have stood passive and with open hands waiting for their government to help them. That would be a wrong conclusion. I could spend much time telling what our farmers have done and are doing for themselves. Time does not permit me to do this, but I do want to say a few words about our agricultural cooperatives. As the name suggests, these are organizations in which farm people voluntarily band together for mutual benefit. These organizations are of various kinds—some are purchasing cooperatives through which farmers save money by buying fertilizer, equipment and other supplies in large quantities. Others are marketing cooperatives through which producers process, store and sell their products jointly, economically and profitably.

Most of these cooperatives started small—just a few farm families putting together their personal resources. Today, the cooperative movement has grown big, strong and healthy in this country. I mention the cooperatives to show you that government assistance has not made our farmers weaker or sapped their initiative. In fact, it has had the opposite effect of putting the farmers in a better position to help themselves and each other.

These, then, are some of the efforts we have made in our long history of independence to enable the American farmer to enjoy "life, liberty and the pursuit of happiness," and thus to dignify him in his way of life. We have come a long hard way, and still have far to go. But I think the basic principles I stated earlier are still sound, and will not

lead us far astray: first, ownership of land, or its use under fair and equitable conditions of tenure; second, access to credit on reasonable terms; and third, access to modern knowledge and techniques for efficient production and decent living.

As regards ownership, it must be remembered that we Americans are blessed with an abundance of good land. Yet, I think it is fair to say that our policies and laws have encouraged independent ownership and fair distribution. The decline in land ownership that lasted from about 1880 to after 1930 has been reversed, and now at least two-thirds of all American farmers own land. We have not always had laws that adequately protected and gave incentive to tenant farmers, and we have not always firmly enforced the laws we had. But we believe that much progress has been made and that most of the tenancy arrangements we now have are generally fair to both tenant and landlord.

As I have said, one of the discoveries we made was that land-ownership, or satisfactory tenancy conditions, in themselves, are not enough. The establishment of the land-grant colleges freed our educational system from its classical mold, and gave farm families the opportunity for higher education. For the first time, agriculture took its rightful place in education as a science to be learned and an art to be cultivated, rather than a rude craft practiced by the ignorant and the lowly. The addition of experiment stations enabled the land-grant colleges to advance scientific knowledge in agriculture. Extension agents took the benefits of that knowledge to the farmer on the land.

One element remained to be added to this program—the education of farm women as equal partners in farm improvement. I cannot overstate the importance of this element. It gave a dynamic push to American agricultural progress and did perhaps more than anything else to make our farms the livable places they are today. The doors of the land-grant colleges were opened to women. Home economics took its place as a course of study, entitled to a degree. From the colleges went home demonstration agents to help the farm wife become a contributing member of the farm enterprise. Still later, our young people organized themselves into 4-H clubs and Future Farmers of America. Thus the idea took shape that all members of the farm family can work together in creating new opportunities for a good life.

As regards credit, we were curiously slow in recognizing its importance as a practical means of enabling farmers to acquire land and to translate modern technology into more profitable farming. But since we recognize that fact, we have worked diligently to provide adequate credit facilities for farmers on a practical and economical basis. In fact, we have now taken an important further step in the direction of combining all three of these essential elements in an integrated program which encourages farm ownership and efficient, profitable farming.

In the last analysis, it is up to the American farmer himself to take full advantage of what is now available to him. I have faith in his initiative, and in like fashion I have faith in the initiative, the sound sense and the independent spirit of farmers I have known all over the world.

We are attending this conference in their interest. But we know full well that their interest is ours, and that all of us are bound together in a common destiny. In that knowledge, let us work together here for a better world, in which we can live in peace, and in dignity, as good neighbors.

As Administrator of the Technical Cooperation Administration I greet you and on behalf of my Government and its President I extend to you a cordial welcome. I assure you he holds each of your governments in high regard.

Land Reform and Economic Development

By DENNIS A. FITZGERALD*

IN coming to the University of Wisconsin for the International Conference on Land Tenure and Related Problems, I am reminded of the rich history and tradition of Wisconsin in the field of land tenure. This University has had a prominent place in the study of the development of American land tenure systems, and of needed measures and institutional adjustments that make for desirable relationships between people and the land. It is most appropriate, therefore, that land tenure specialists from all over the free world should be gathered here to discuss problems of mutual concern and interest and jointly to work toward their solutions. Economic Cooperation Administration is happy to participate and to extend its support to such a worthwhile undertaking.

It may be convenient if I begin my remarks by defining, or perhaps the better word would be describing, what we in this country mean by "land tenure" and "land reform." We like to use the words "land tenure" to describe all those arrangements by which farmers or others hold or control land and that condition its use and occupancy. In this context land tenure covers much more than mere rights in land; it encompasses agricultural economic institutions generally, including agricultural land ownership and tenancy, land rents, taxation of agricultural land or income from land, and even rural credit facilities. We conceive of the term "land reform" as covering the changes in these agricultural economic institutions which improve the economic, social and political status of the individual occupier of land and in so doing contribute to general economic development.

Back of this concept is a fundamental belief in the individual liberty of man and his right to own and control property. Throughout history land has been considered almost synonymous with property. In the free world a wide diffusion of rights in property and in the opportunity to acquire such rights is a basic tenet of democracy. The wide diffusion of rights in property is, in our opinion, almost synonymous with individual freedom and liberty.

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Economic development, upon which rests the hope of the mass of the people for better living in the broadest sense of the term, is at once an essential prerequisite to land reform and a partial consequence of it. In this country we have a saying—and I am sure most of you have a comparable saying in yours—for which nobody has a concise answer, namely: "Which comes first, the hen or the egg?" But we do not need to have an answer to this academic question in order to improve our poultry population and to increase both the quantity and quality of our egg production. Similarly, we do not need to answer the question of which comes first, economic development or land reform.

If, for purposes of simplification, we classify all areas in two groups—first, those in which land resources are limited in relation to the existing agricultural population and second, those in which it is not—the interrelationship between land reform and economic development becomes more apparent. In areas with heavy "population pressure," the agricultural situation is characterized by an inadequacy of agricultural resources in relation to the farming population. Small, inefficient farms tend to be the rule, although a scattering of large estates is not uncommon. With a surplus of farmers competing actively for the use of land—for an opportunity to employ their principal resource, labor—land owners frequently may be able to retain a disproportionate share of the returns from the land. Social discontent and political unrest breed easily in such a fertile soil. Even in these circumstances much can be done to improve the economic conditions of the land occupiers and, of course, everything that can be done should be done. The lasting solution, however, must rest upon the gradual development of non-agricultural resources and the orderly transfer of people from agricultural to non-agricultural pursuits. Only in this way can a more efficient balance be obtained between land resources and the agricultural population. Generally speaking, therefore, the development of manufacturing, the processing of agricultural products, and an expansion of trade activities should be encouraged. History has demonstrated conclusively that it is through such developments

that the pressure of population on the land is lessened and opportunity provided for the efficient use of labor-saving tools and techniques. Most important, such economic developments invariably have led to increased food production and higher standards of living for all. In such a setting, agricultural adjustment programs—including land reforms—can progress more easily in bringing about improved relationships of people to land resources.

Under the second of the assumed situations, that is, those areas where, in relation to the agricultural population, there is an adequacy of agricultural resources, even though undeveloped, the problem and, therefore, its solution is probably much simpler. The possibility of developing economic farming units which will provide a reasonable level of living for the operator is much greater and essential government investment probably can be confined more largely to public services such as transportation and educational and health facilities.

In the United States we have been singularly fortunate in having both comparatively abundant land resources in relation to population, even though that population has been growing rapidly, and in having even more rapid economic development in non-agricultural activities. As a consequence, the proportion of our population engaged in agriculture has declined steadily throughout most of our history. And since 1916 the absolute number of persons engaged in agriculture has been falling while agricultural production has continued to expand. Simultaneously, of course, the economic progress of this country has permitted a rapid increase in the capital investment in agriculture and in output per agricultural worker. Between 1900 and 1950 the per capita production of agricultural workers in the United States more than doubled.

Economic development rests, in the last analysis, upon the accumulation of capital and its investment in productive uses. In many areas of the world capital accumulation is impeded by the inability of the individual to save anything from his already inadequate income and frequently, when he does, the savings are hoarded rather than invested.

A second, and in the past, a most important, source of investment capital in any given area is from other parts of the world where economic development is more advanced and the custom of and opportunity to save for investment is more highly developed. Today there appears to be increasing difficulties to be overcome before such investment flow can be counted upon and in any event it cannot be a complete substitute for domestic savings.

The most important single incentive to a flow of either private or public capital from abroad, it seems to me, is the investment climate in the country or area desiring such investments. Unfortunately, in my opinion, the investment climate in many areas today is not conducive to attracting outside venture capital. This is attributable in considerable part to the generally unsettled external political and social conditions over which any individual country may have little control. But this is by no means the whole story. Many countries, no doubt for what they consider to be laudable efforts to improve or protect the economic conditions of their people, actually inhibit the free investment of foreign capital. Elimination of such misguided "nationalism" would appear to be an essential prerequisite to obtaining the very real benefits which can grow out of effective foreign capital investment.

In addition to developing the right climate for attracting foreign capital it is, of course, equally necessary to encourage in every way possible both domestic savings and the investment of those savings in productive activities. The steps which a government can take to achieve this objective will vary immensely. In all, however, internal political and economic stability stand out as of prime importance to optimum domestic investment in agriculture just as they do in providing an attractive climate for foreign investment.

One of the most constructive features of this conference is the emphasis being placed upon the workshop-seminar approach. In addition to the exchange of views and experiences dealing with land reform as such, it affords an unexcelled opportunity for all of us to explore ideas and exchange experiences in the collateral problems of economic development as they affect or are affected by land reform. We all recognize immediately that conditions vary tremendously between countries and even between areas within a country, and what may have worked effectively under one set of conditions would be completely inapplicable in another. Nevertheless, the rich experience collectively represented by

the participants at this conference can but contribute to the knowledge and understanding of each one of us and thereby better prepare us to develop more adequate solutions to the problems that we as individuals and our respective countries face.

In commenting as I have upon the importance of economic development generally, I do not want to minimize for a moment the value of land reform itself. A wide range of improvements in agricultural economic institutions themselves is possible without excessive capital investment. Substantial progress in agricultural production can be made through technological developments—use of improved seed varieties, insecticides, optimum application of fertilizers, and introduction of improved types of tools and machines, and through further development of land already in farms. The opening up of new land remains a promising possibility in some areas.

In many instances, however, land reform is necessary for the full development and use of modern science and technology in agriculture. The most pressing needs therefore may be for an improved tenure system, the development of credit facilities for both short- and long-term credit under favorable terms and at reasonable rates of interest, expanded and redirected educational programs, and the enactment of necessary legislation for an organizational setup suitable to carry on land development programs, including essential public works for land reclamation, roads and public facilities.

An extension of property interests in land can be brought about through change in land ownership patterns, better landlord-tenant arrangements and the elimination of oppressive controls and burdens where they exist. Institutional improvements in this direction affect the productivity of the farmer and this productivity vitally affects the over-all economic development of a nation. Institutional changes of this particular kind may be politically most difficult even though relatively inexpensive. This is particularly true in instances in which large estates or holdings should be divided into family operating units. At the other end of the scale are instances in which small units need to be consolidated because of inadequate size, or because of their scattered nature.

In the United States I suspect we have a land ownership pattern that is less troubled by these situations than that found in most other parts of the world. The most consistent phase of our land policy has been the establishment and improvement of family farms. We have found that, for most types of farming, the family farm is a highly efficient and productive type of organization, both from an individual and a social viewpoint. Ideally we believe such a family farm should be a unit that can be operated by the labor of the family, or with the employment of very little outside labor, and that provides an income sufficient for a good family living, including sufficient savings for farm maintenance and improvement. Unfortunately, in areas where population pressure is great, the tendency is for the units to be so small that deterioration rather than improvement is the more likely. Under these circumstances farmers are in no position to maintain their land resources, improve their economic status or lend support to the stability of political institutions.

If the farms are too small, it may be necessary to produce high income-yielding crops per unit of land even though national interest, market outlets or other conditions may call for the production of more extensive crops. Under these conditions, land redistribution merely for the purpose of vesting ownership and operation in a greater number of individuals may be a disservice both to the individuals concerned and to the country.

Another aspect of land reform which does not necessarily require a large initial investment is land consolidation—the regrouping of scattered ownership parcels. This is one of the pressing land reforms needed, and to some extent under way, in many parts of Western Europe. For example, in Western Germany in 1950, of 223,000 farms of from 2 to 3 hectares in size, 23 percent consisted of between 6 and 10 separate parcels, 24 percent between 11 and 20 parcels, and 7 percent between 21 and 30 parcels.

Through the consolidation of scattered parcels, it is possible to increase substantially agricultural production and at the same time reduce farm operating cost. Potential production increases are estimated as high as 25 to 30 percent and unit cost decreases from 10 to 15 percent. Of equal significance is that the land tenure patterns following land consolidation provide an incentive for improved land use and conservation practices, and a basis for more effective agriculture-wide planning and program operations.

In some parts of the world farmers typically rent the land they operate. This is true in much of Southeast Asia, in the countries of the Middle East, and in several South American countries. Tenancy in itself is not to be deplored where the rentals are not exorbitant and the tenant has a reasonable degree of security and stability, especially if it is of a form which does not preclude the acquiring of land ownership. However, where rentals take the major part of the income from land and land is held as a closed investment, tenants have little, if any, economic incentive or opportunity to increase the productive capacity of the land or to improve their own well-being. Legislation providing for more equitable sharing out of the returns from land may be a partial solution but, in the long run, the eventual solution must be to bring about a better balance between the agricultural population and land resources.

More or less parenthetically, I should like to mention one source of investment funds for land reform and related purposes that has been available in the last three years. This source is the local currency which Marshall Plan countries have been depositing in their central banks in an amount equivalent to the dollar grants in aid provided by the United States. The Italian Government, for example, proposed and the United States readily concurred in the use of a considerable amount of the Italian lira counterpart for land reclamation, drainage and irrigation and for the establishment of a source of credit for small farmers at reasonable interest rates. Again, the Netherlands has used guilder counterpart funds for the rehabilitation and recovery of lands flooded with sea water during World War II. Several European countries have used some of this local counterpart currency for establishing or expanding agricultural advisory services.

The United States program of economic aid to countries in Southeast Asia has been in operation only for a year or so in most instances, but it is quite clear that these countries will want to use at least part of the local counterpart currencies growing out of this assistance for carrying forward various land reform and related activities.

One collateral matter affecting both land reform and economic development generally, to which I should like to refer briefly, is that of the relation of population to economic resources including land resources. The population of the world has increased approximately fourfold in the last three centuries, from about 545 million in 1650 to 2 billion 450 million in 1950. In the last hundred years the world's population has almost doubled. One of the most disturbing aspects is that today about one-half of the world's population lives in countries which have a diet of less than 2,500 calories a day. In fact, the majority probably have diets in the neighborhood of 2,000 calories per person per day. This low level of food consumption, combined with poor health conditions generally, results in a high incidence of disease and of death rate. But generally birth rates continue high and disease control methods have become more widely used so that population continues to grow and to press upon resources generally.

Excessive pressure of population upon resources, including land resources, in many parts of the world must be reckoned as a hard fact. Unless there is a decline in the rate of population growth in these areas, progress in achieving desirable levels of production, nutrition and economic development will be seriously obstructed. I have no pat solution to this problem and, indeed, it is extraordinarily difficult and complex. Experiences seems to suggest that declining birth rates are associated with economic development and social progress and without the latter little progress can be made in achieving the decline in birth rates which will, as economic resources increase, bring about a gradual improvement in the economic status of the individual.

While the population problem may prove to be the most intractable, I recognize that many direct land reform measures will also be most difficult—particularly those that involve a change in property rights. But all are highly important. The feasibility of different measures must be studied, new ways of overcoming obstacles developed, and courses of action determined upon and executed with vigor. This requires courageous but tactful leadership, and a framework within which such leadership can effectively make itself felt. There is no easy road to land reform, while conditions demand that progress be made. This is our challenge. With this final observation, I sincerely wish the members of this conference a very profitable and enjoyable stay in the United States.

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A more complete listing of all participants will be contained in the Conference Proceedings.

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